

**UNITED STATES DISTRICT COURT  
FOR THE MIDDLE DISTRICT OF FLORIDA**

# DUVAL COUNTY SCHOOL DISTRICT

Case No.

**Plaintiff,**

## COMPLAINT

**V.**

**META PLATFORMS, INC.,  
FACEBOOK HOLDINGS, LLC,  
FACEBOOK OPERATIONS, LLC,  
FACEBOOK TECHNOLOGIES, LLC,  
INSTAGRAM, LLC,  
SICULUS, INC.,  
SNAP INC.,  
TIKTOK INC.,  
TIKTOK LTD.,  
TIKTOK LLC,  
BYTEDANCE INC.,  
BYTEDANCE LTD.,  
ALPHABET INC.,  
GOOGLE LLC,  
XXVI HOLDINGS INC., and  
YOUTUBE, LLC,**

## JURY TRIAL DEMANDED

**Defendants.**

## COMPLAINT

Plaintiff, the Duval County School District, (“Plaintiff”) submits this Complaint against Defendants Meta Platforms, Inc., Facebook Holdings, LLC, Facebook Operations, LLC, Facebook Technologies, LLC, Instagram, LLC, Siculus, Inc., Snap Inc., TikTok Inc., TikTok Ltd., TikTok LLC, ByteDance Inc., ByteDance Ltd., Alphabet Inc., Google LLC, XXVI Holdings, Inc., and YouTube, LLC (collectively, “Defendants”), alleging as follows:

## I. INTRODUCTION AND FACT ALLEGATIONS

1. Over the past decade, the number of people, including children, on social media platforms designed, built, marketed, promoted, distributed, and operated by Defendants has ballooned. This growth is more than just an increase from millions to billions; it is also an increase in how often the platforms are visited and the length of time spent on the platforms per visit.

2. This is consistent with Defendants' goals to increase how often their platforms are visited and how much time is spent on them, and to addict people, including children to their social media platforms. America's children are vital to the Defendants' business models. Children have more "downtime" than many other demographics. They not only have access to the internet through phones, tablets, laptops, and similar devices, but also are able to and do use social media platforms and are more likely to spend their downtime on social media platforms. America's children are the social-media generation. Defendants recognized that, if they hook children, they will have them of their platforms for life. For example, Instagram's marketing strategy document clarifies, "If we lose the teen foothold in the U.S., we lose the pipeline."<sup>1</sup>

3. Children are critical to Defendants' platforms' success, in part because they are particularly susceptible to how Defendants' social media platforms are designed, built and operated. Defendants have designed, refined, built and operated their social media platforms to exploit the neurophysiology of the brain's reward systems – a biological response amplified in children. The reward gratification built into Defendants' social media platforms keeps America's children returning almost constantly to and staying on the platforms for increasingly longer periods and produces addiction to the platforms.

4. The children critical to Defendants' profit-making success are especially vulnerable to the manipulative platforms. As their brains are yet developing, children lack the emotional

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<sup>1</sup> Sheera Frenkel et al., *Instagram Struggles with Fears of Losing Its 'Pipeline': Young Users*, N.Y. Times (Oct. 26, 2021), <https://www.nytimes.com/2021/10/16/technology/instagram-teens.html>.

maturity, impulse control, and psychological resiliency to perceive, understand, and combat the manipulation and harm occurring on social media platforms.

5. Defendants' exploitation of children's still-developing brains has paralleled and contributed to causing the continuing mental health crisis among children in the United States. Plaintiff's firsthand experiences with the adverse impacts of this crisis are consistent with findings described in a May 23, 2023, U.S. Surgeon General Advisory and cited sources on such social media platform's impact on children's mental health. Among other things, the Surgeon General noted:

Adolescents who spend more than three hours per day on social media face double the risk of experiencing poor mental health outcomes, such as symptoms of depression and anxiety; yet one 2021 survey of teenagers found that, on average, they spend 3.5 hours a day on social media. One-third or more of girls aged 11-15 say they feel "addicted" to certain social media platforms and over half of teenagers report that it would be hard to give up social media. Studies have also shown a relationship between social media use and poor sleep quality, reduced sleep duration, sleep difficulties, and depression among youth.<sup>2</sup>

6. Defendants purposefully have exploited the proclivities that teenaged children have, designing, building, and operating their platforms to encourage teens to spend more time on them, frequently to the point of addiction, heedless of the adverse effects on their wellbeing and mental health. Social media platforms create profits by selling and displaying advertisements. Defendants earn more from advertisements when users spend more time on their platforms. And children are Defendants' golden geese, given their unique susceptibility to the addictive design of Defendants' platforms. The havoc left in the wake of Defendants' putting profits over children's mental health has harmed children, including Plaintiff's students.

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<sup>2</sup> *E.g.*, U.S. Dep't Health & Hum. Servs., Social Media and Youth Mental Health (2023), <https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf>.

7. Increasing numbers of America's children are struggling with anxiety, depression, thoughts of self-harm, and suicidal ideation – as a proximate result of their repeated presence, and length of time, on Defendants' social media platforms. Suicide is now America's middle schoolers' second leading cause of death,<sup>3</sup> and the fourth leading cause of death for residents of Florida ages 1-17.<sup>4</sup> The rates at which children struggle with mental health issues have steadily climbed in parallel with their increasing time on Defendants' social media platforms. Defendants' misconduct and social media platforms have fueled these harms, and the increasing prevalence and severity are causally related.

8. In Florida, "All children who have attained the age of 6 years or who will have attained the age of 6 years by February 1 of any school year or who are older than 6 years of age but who have not attained the age of 16 years, except as otherwise provided, are required to attend school regularly during the entire school term." § 1003.21(1)(a)1, Fla. Stat.

9. Florida School Boards have experienced an increasing prevalence and severity of anxiety, depression, self-harm, low self-esteem, bullying, aggressive behavior, emotional dysregulation, and other mental health issues among their students. School counselors, social workers, school psychologists, and other mental health professionals witness these symptoms firsthand, and they report that students' use of social media platforms contribute to or exacerbate these symptoms, based on both their own observations and students' descriptions of their symptoms. Adolescence is a time of constructing and reconstructing identity. Students, in general, spend 3.5 or more hours a day on average on Defendants' platforms. This adversely affects their social, emotional, and cognitive behavior and health, including their mental health.

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<sup>3</sup> E.g., WISQARS Fatal Injury Data Visualization, *10 Leading Causes of Death, and United States 2020, Both Sexes, All Ages, All Races*, Centers for Disease Control & Prevention, Nat'l Ctr. for Health Stats., <https://wisqars.cdc.gov/data>.

<sup>4</sup> <https://dph.Florida.gov/content/dam/soi/en/web/idph/publications/idph/data-and-statistics/vital-statistics/death-statistics/Leading-causes-by-age-2021.pdf>.

10. Given these harms to children, it is unsurprising that public officeholders across the political spectrum are calling for Defendants to be held accountable. President Joe Biden stated during the 2022 State of the Union Address, “social media platforms [should be held] accountable for the national experiment they’re conducting on our children for profit.”<sup>5</sup> And, as just one of many federal and state legislators echoing similar sentiments, Senator Josh Hawley (R-MO) introduced a bill to prevent social media companies from continuing to harm kids.<sup>6</sup> Senator Hawley’s bill would require companies to give parents access and control over their children’s data and create a private federal right of action for parents to sue social media companies if they are denied access to the data, with enhanced penalties if they are not notified when their children create accounts.<sup>7</sup>

11. Defendants’ social media platforms have exposed the vulnerable and still-developing brains of Plaintiff’s students, among millions of students nationwide, to increasing feedback loops, which cause them significant harm.

12. When students experience mental health problems like anxiety and depression, they perform worse in school, are less likely to attend school, are more likely to engage in substance use and abuse, are more likely to act out, and are more likely to need additional resources like counseling or medical care.

13. Along with providing mental health services and other supports to students during this crisis, Florida School Boards have financed and implemented programs to educate students and their families about mental health and wellbeing.

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<sup>5</sup> President Joseph R. Biden, State of the Union Address (Mar. 1, 2022) (transcript available at <https://www.whitehouse.gov/state-of-the-union-2022/>).

<sup>6</sup> Press Release, U.S. Senator Josh Hawley, Hawley Introduces Bill Requiring Big Tech Companies Give Children’s Data Back to Parents (Feb. 28, 2023), <https://www.hawley.senate.gov/hawley-introduces-bill-requiring-big-tech-companies-give-childrens-data-back-parents>.

<sup>7</sup> Parental Data Rights Act, S. 564, 118th Cong. (2023) (introduced in Senate), <https://www.hawley.senate.gov/sites/default/files/2023-02/EHF23099.pdf>.

14. But, despite Plaintiff's best efforts and corresponding expenditures, the mental health crisis persists, and Plaintiff needs to recoup expenditures and will need significantly more funding to implement potentially lifesaving programs in the face of this ever-increasing mental health crisis that Defendants' through their social media platforms have substantially contributed to causing and have exacerbated, and that is continuing. Defendants must be held accountable for the costs borne by Florida School Boards and the funds needed to address the mental health crisis fueled by Defendants through their social media platforms, and they also must be enjoined from continuing to burden Florida School Boards by designing, building, marketing, and operating their social media platforms in ways that cause and exacerbate psychological and social-emotional harm to students, and at times lead to physical harm.

15. Any factual allegations or counts of this complaint that may be inconsistent with prior rulings by the Court to which this case may be transferred are included to preserve them for further consideration or appellate review.

## **II. JURISDICTION AND VENUE**

16. This Court has subject matter jurisdiction over this case under 28 U.S.C. § 1332(a) because the amount in controversy exceeds \$75,000, and because the Plaintiff and Defendants are residents and citizens of different states.

17. The Court has personal jurisdiction as Defendants do business in Florida and have sufficient minimum contacts with this District. Defendants intentionally avail themselves of the markets in the State of Florida through the promotion, marketing, and operation of their social media platforms at issue in this lawsuit in Florida, and by retaining the profits and proceeds from these activities, to render the exercise of jurisdiction by this Court proper under Florida law and the United States Constitution.

18. Venue is proper in this District pursuant to 28 U.S.C. § 1391(b)(2) and (3) because a substantial part of the events or omissions giving rise to the claims at issue in this Complaint arose in this District and Defendants are subject to the Court's personal jurisdiction over this action.

### **III. PARTIES**

#### **A. Plaintiff**

19. Plaintiff, Duval County School District, is vested with the authority to bring this suit under Florida law.

#### **B. Facebook and Instagram Defendants**

20. Defendant Meta Platforms, Inc. (“Meta”), formerly known as Facebook, Inc., is a Delaware corporation with its principal place of business in Menlo Park, California.

21. Defendant Meta develops and maintains social media platforms, communication platforms, and electronic devices widely available throughout the United States. The platforms developed and maintained by Meta include Facebook (including its self-titled app, Marketplace, and Workplace), Messenger (including Messenger Kids), Instagram, and a line of electronic virtual reality devices and services called Meta Quest (collectively, “Meta platforms”).

22. Meta transacts or has transacted business in this District and throughout the United States. At all times material to this Complaint, acting alone or in concert with its subsidiaries (identified below), Meta has advertised, marketed, and distributed the Meta platforms throughout the United States. At all times material to this Complaint, Meta formulated, directed, controlled, had the authority to control, or participated in the acts and practices set forth in this Complaint.

23. Defendant Meta’s subsidiaries include Facebook Holdings, LLC; Facebook Operations, LLC; Facebook Technologies, LLC; Instagram, LLC; and Siculus, Inc.

24. Defendant Facebook Holdings, LLC (“Facebook Holdings”) was organized under the laws of the state of Delaware on March 11, 2020, and is a wholly owned subsidiary of Meta Platforms, Inc. Facebook Holdings is primarily a holding company for entities involved in Meta’s supporting and international endeavors. Its principal place of business is in Menlo Park, California. Defendant Meta is the sole member of Facebook Holdings.

25. Defendant Facebook Operations, LLC (“Facebook Operations”) was organized under Delaware law on January 8, 2012, and is a wholly owned subsidiary of Meta Platforms, Inc.

The principal place of business of Facebook Operations is in Menlo Park, California. Defendant Meta is the sole member of Facebook Operations.

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27. Defendant Facebook Technologies, LLC (“Facebook Technologies”) was organized under the laws of the state of Delaware as “Oculus VR, LLC” on March 21, 2014, and acquired by Meta on March 25, 2014. Facebook Technologies develops Meta’s virtual and augmented reality technology, such as the Meta Quest line of services, among other technologies related to Meta’s platforms, and its principal place of business is in Menlo Park, California. Defendant Meta is the sole member of Facebook Technologies.

28. Defendant Instagram, LLC (“Instagram”), founded in October 2010, is a social media platform designed for photo and video sharing. In April 2012, Meta bought the company for approximately \$1 billion. Meta reformed the limited liability company under Delaware law on April 7, 2012, and the company’s principal place of business is in Menlo Park, California. Defendant Meta is the sole member of Instagram.

29. Defendant Siculus, Inc. (“Siculus”) was incorporated in Delaware on October 19, 2011. Siculus, a wholly owned subsidiary of Meta, supports Meta platforms by constructing data facilities and other projects. Siculus’s principal place of business is in Menlo Park, California.

### **C. Snap Defendant**

30. Defendant Snap Inc. (“Snap”) is a Delaware corporation with its principal place of business in Santa Monica, California. Snap transacts or has transacted business in this District and throughout the United States. At all times material to this Complaint, acting alone or in concert with others, Snap has advertised, marketed, and distributed its social media platform, Snapchat, throughout the United States. At all times material to this Complaint, Snap formulated, directed, controlled, had the authority to control, or participated in the acts and practices set forth in this Complaint.

### **D. ByteDance and TikTok Defendants**



31. Defendant TikTok Inc. (“TikTok”), formerly known as Musical.ly, Inc., was incorporated in California on April 30, 2015, with its principal place of business in Culver City, California. TikTok transacts or has transacted business in this District and throughout the United States. At all times material to this Complaint, acting alone or in concert with others, TikTok has advertised, marketed, and distributed the TikTok social media platform throughout the United States. At all times material to this Complaint, acting alone or in concert with Defendant ByteDance Inc., TikTok formulated, directed, controlled, had the authority to control, or participated in the acts and practices set forth in this Complaint.

32. Defendant ByteDance Inc., a wholly owned subsidiary of Defendant ByteDance Ltd., was incorporated in Delaware on January 1, 2016, with its principal place of business in San Jose, California. ByteDance Inc. transacts or has transacted business in this District and throughout the United States. At all times material to this Complaint, acting alone or in concert with others, ByteDance Inc. has advertised, marketed, and distributed the TikTok social media platform to consumers throughout the United States. At all times material to this Complaint, acting alone or in concert with TikTok Inc., ByteDance Inc. formulated, directed, controlled, had the authority to control, or participated in the acts and practices set forth in this Complaint.

33. Defendant ByteDance Ltd. is a global company incorporated in the Cayman Islands. Its principal place of business is in Beijing, China. Defendant ByteDance Ltd. also maintains offices in the United States, Singapore, India, and the United Kingdom, among other locations. ByteDance Ltd.’s key Chinese subsidiary is Beijing Douyin Information Service Limited, formerly known as Beijing ByteDance Technology Co. Ltd. (“Beijing ByteDance”). Beijing ByteDance owns, operates, and holds key licenses to Douyin, the Chinese version of TikTok. On or around April 30, 2021, the Chinese government took a 1% stake in, and received one of three seats on the board of directors of, Beijing ByteDance. Specifically, 1% of Beijing ByteDance is now owned by WangTouZhongWen (Beijing) Technology, which in turn is owned by China Internet Investment Fund (China’s top Internet regulator and censor), China Media

Group (China's national broadcaster, controlled by the Chinese Communist Party's propaganda department), and the Beijing municipal government's investment arm.

34. Defendant TikTok, Ltd., a Cayman Island corporation with its principal place of business in Shanghai, China, is a wholly owned subsidiary of Defendant ByteDance Ltd..

35. Defendant TikTok, Ltd. wholly owns its subsidiary Defendant TikTok, LLC which has at all relevant times been a Delaware limited liability company.

36. Defendant TikTok, LLC wholly owns its subsidiary Defendant TikTok, Inc.

37. Defendants TikTok, Ltd.; TikTok, LLC; TikTok, Inc.; ByteDance Ltd.; and ByteDance Inc. are referred to jointly as "ByteDance."

38. ByteDance owns, operates, controls, produces, designs, maintains, manages, develops, tests, labels, markets, advertises, promotes, supplies, and distributes the TikTok social media platform. TikTok is widely available throughout the United States.

#### **E. YouTube Defendants**

39. Defendant Alphabet Inc. is a Delaware corporation with its principal place of business in Mountain View, California. Alphabet Inc. is the sole stockholder of XXVI Holdings Inc.

40. Defendant XXVI Holdings Inc. is a Delaware corporation with its principal place of business in Mountain View, California. XXVI Holdings, Inc. is a wholly owned subsidiary of Alphabet Inc. and the managing member of Google LLC ("Google").

41. Defendant Google is a limited liability company organized under the laws of the state of Delaware, and its principal place of business is in Mountain View, California. Google LLC is a wholly owned subsidiary of XXVI Holdings Inc., and the managing member of YouTube, LLC. Google LLC transacts or has transacted business in this District and throughout the United States. At all times material to this Complaint, acting alone or in concert with others, Google LLC has advertised, marketed, and distributed its YouTube social media platform throughout the United States. At all times material to this Complaint, acting alone or in concert with YouTube, LLC,

Google LLC formulated, directed, controlled, had the authority to control, or participated in the acts and practices set forth in this Complaint.

42. Defendant YouTube, LLC is a limited liability company organized under the laws of the state of Delaware, and its principal place of business is in San Bruno, California. YouTube, LLC is a wholly owned subsidiary of Google LLC. YouTube, LLC transacts or has transacted business in this District and throughout the United States. At all times material to this Complaint, acting alone or in concert with Defendant Google LLC, YouTube, LLC has advertised, marketed, and distributed its YouTube social media platform throughout the United States. At all times material to this Complaint, acting alone or in concert with Google LLC, YouTube, LLC formulated, directed, controlled, had the authority to control, or participated in the acts and practices set forth in this Complaint and did so within this District.

#### IV. FURTHER FACT ALLEGATIONS

##### A. Presence and Time on Defendants' Social Media Platforms Has Become Excessive and Problematic for Millions of Children

43. Researchers studying the effect social media platforms<sup>8</sup> have on the brain have shown that social media exploits “the same neural circuitry” as “gambling and recreational drugs to keep consumers using their products as much as possible.”<sup>9</sup>

44. As described below, each Defendant designed and marketed exploitive social media platforms to be extremely popular with young people. And each has been successful. Ninety percent of children ages 13-17 use social media platforms.<sup>10</sup> Younger children also regularly use social media platforms. One study reported 38 percent of children ages 8-12 used social media

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<sup>8</sup> The term “social media” is commonly used to refer to text, photos, videos, and ideas that are exchanged among virtual communities. The interactive technologies that allow for the virtual exchange of these media are known as social media platforms.

<sup>9</sup> *Social Media Addiction*, Addiction Ctr., <https://www.addictioncenter.com/drugs/social-media-addiction/> (accessed June 28, 2022).

<sup>10</sup> *Social Media and Teens*, Am. Acad. of Child & Adolescent Psychiatry (2018), [https://www.aacap.org/AACAP/Families\\_and\\_Youth/Facts\\_for\\_Families/FFF-Guide/Social-Media-and-Teens-100.aspx](https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Social-Media-and-Teens-100.aspx).

platforms in 2021.<sup>11</sup> Other studies reveal numbers as high as 49 percent of children ages 10-12 use social media platforms and 32 percent of children ages 7-9 use social media platforms.<sup>12</sup>

45. YouTube is the most popular of these platforms. A vast majority, 95 percent, of children ages 13-17 have used YouTube.<sup>13</sup>

46. TikTok has skyrocketed in popularity with teenagers since its merger with Musical.ly in 2018. As of July 2020, “TikTok classified more than a third of its 49 million *daily* users in the United States as being 14 years old or younger[,]” and that likely underestimates the number under 14 and older teenagers (between 15 and 18 years old) because TikTok claims not to know how old a third of them are.<sup>14</sup> TikTok is now the second most popular social media platform, with over 67 percent of children ages 13-17 having been on the platform.<sup>15</sup>

47. Instagram’s numbers are like TikTok’s, with 62 percent of children ages 13-17 reporting they have been on the platform.<sup>16</sup>

48. Snapchat also remains popular with young people, with 59 percent of children ages 13-17 reporting they have been on the platform.<sup>17</sup>

49. Facebook rounds out the five most popular social media platforms, with 32 percent of children ages 13-17 reporting they have been on the Facebook platform.<sup>18</sup>

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<sup>11</sup> Victoria Rideout et al., Common Sense Media, The Common Sense Census: Media Use by Tweens and Teens, 2021 5 (2022), [https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web\\_0.pdf](https://www.commonsensemedia.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

<sup>12</sup> C.S. Mott Child.’s Hosp. Univ. of Mich. Health, Sharing Too Soon? Children and Social Media Apps (2021), [https://mottpoll.org/sites/default/files/documents/101821\\_SocialMedia.pdf](https://mottpoll.org/sites/default/files/documents/101821_SocialMedia.pdf).

<sup>13</sup> Emily Vogels et al., *Teens, Social Media and Technology 2022*, Pew Rsch. Ctr. (Aug. 10, 2022), <https://www.pewresearch.org/internet/2022/08/10/teens-social-media-and-technology-2022/>.

<sup>14</sup> Raymond Zhong & Sheera Frenkel, *A Third of TikTok’s U.S. Users May Be 14 or Under, Raising Safety Questions*, N.Y. Times (Sept. 17, 2020), <https://www.nytimes.com/2020/08/14/technology/tiktok-underage-users-ftc.html>.

<sup>15</sup> Vogels et al., *supra* note 13.

<sup>16</sup> *Id.*

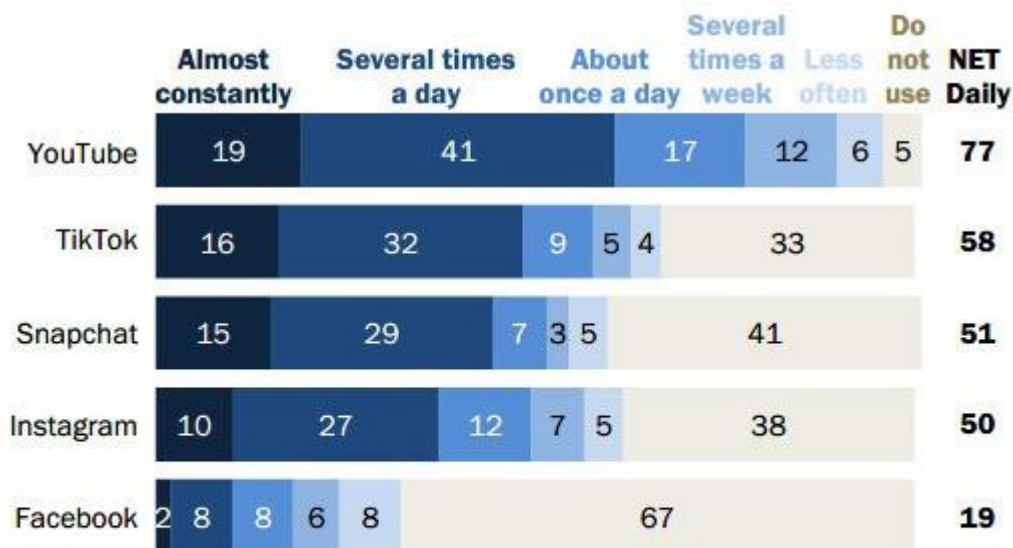
<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

50. Teenagers accessing these social media platforms are also likely on them daily. One study estimates that 62 percent of children ages 13-18 are on social media platforms daily.<sup>19</sup> More and more younger children also are on social media platforms daily, with 18 percent of children ages 8-12 reporting being on a social media platform at least once a day.<sup>20</sup>

51. The daily experience for many teenagers does not consist of going onto a platform just once. Instead, many teenagers check social media repeatedly throughout the day. In one study, teenagers reported checking Snapchat thirty times a day on average.<sup>21</sup>

52. Some teenagers never stop looking being on social media platforms.<sup>22</sup>



Note: Teens refer to those ages 13 to 17. Those who did not give an answer are not shown. Figures may not add up to the NET values due to rounding.  
Source: Survey conducted April 14-May 4, 2022.  
"Teens, Social Media and Technology 2022"

PEW RESEARCH CENTER

<sup>19</sup> Rideout et al., *supra* note 11, at 4.

<sup>20</sup> *Id.* at 5.

<sup>21</sup> Erinn Murphy et al., Piper Sandler, Taking Stock with Teens, Fall 2021 13 (2021), [tinyurl.com/89ct4p88](https://tinyurl.com/89ct4p88).

<sup>22</sup> *Id.*

53. Nearly one-fifth of teens use YouTube almost constantly.<sup>23</sup> TikTok and Snapchat are close behind, with almost constant use rates among teens at 16 percent and 15 percent, respectively.<sup>24</sup> Meanwhile, 10 percent of teens use Instagram almost constantly.<sup>25</sup> And two percent of teens report using Facebook almost constantly.<sup>26</sup>

54. Teenagers know of social media platforms' grip on their lives but struggle to control or stop themselves from using them. Thirty-six percent of teenagers admit they spend too much time on social media platforms.<sup>27</sup> And over half of teens say that giving up social media platforms would be hard, with nearly one-in-five teens saying giving up social media platforms would be very hard.<sup>28</sup> And of the subgroup of teenagers who use at least one platform "almost constantly," 71 percent said giving up social media platforms would be hard, with 32 percent saying giving up social media platforms would be very hard.<sup>29</sup>

55. That young people find social media platforms irresistible is not surprising. As the U.S. Surgeon General recently explained, children versus Big Tech is:

[J]ust not a fair fight. . . You have some of the best designers and product developers in the world who have designed these products to make sure people are maximizing the amount of time they spend on these platforms. And if we tell a child, use the force of your willpower to control how much time you're spending, you're pitting a child against the world's greatest product designers.<sup>30</sup>

56. And the more teenagers use social media platforms, the harder they find it to get off of them. Teenagers who say they spend too much time on social media platforms are almost twice as likely to say that giving up social media platforms would be hard as teens who see their social media platform usage as about right.<sup>31</sup>

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<sup>23</sup> *Id.*

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

<sup>30</sup> Allison Gordon & Pamela Brown, *Surgeon General Says 13 is 'Too Early' to Join Social Media*, CNN (Jan. 29, 2023), <https://www.cnn.com/2023/01/29/health/surgeon-general-social-media/index.html>.

<sup>31</sup> *Id.*

57. Another study shows that among teenagers who regularly use social media platforms, 32 percent “wouldn’t want to live without” YouTube.<sup>32</sup> Twenty percent of teenagers said the same about Snapchat; 13 percent said the same about both TikTok and Instagram; and 6 percent said the same about Facebook.<sup>33</sup>

58. Despite going on social media often, most children do not enjoy it. Only 27 percent of boys and 42 percent of girls ages 8-18 reported enjoying social media platforms “a lot” in 2021.<sup>34</sup>

**B. Research Has Confirmed the Harmful Effects of Social Media Platforms on Children**

59. Being on social media – especially excessively – has severe and wide-ranging effects on children’s mental health; it is linked to increases in mental, emotional, developmental, and behavior disorders. Independent research and internal data from these social media platforms show social media platforms have a direct negative effect on teenagers’ mental health on various fronts.

60. In general, electronic screen use causes lower psychological well-being.<sup>35</sup> This link is especially apparent among adolescents. Those with high social media platform screen time are twice as likely to receive diagnoses of depression, anxiety, or need treatment for mental or behavior health conditions compared to those with low screen time.<sup>36</sup>

61. Social media platforms specifically have a “detrimental effect on the psychological health of its users.”<sup>37</sup> One systematic review of 16 studies on the effects of social media platforms on mental health found they increase levels of anxiety and depression.<sup>38</sup>

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<sup>32</sup> Rideout et al., *supra* note 11, at 31.

<sup>33</sup> *Id.*

<sup>34</sup> *Id.* at 34.

<sup>35</sup> Jean M. Twenge & W. Keith Campbell, *Associations Between Screen Time and Lower Psychological Well-Being Among Children and Adolescents: Evidence From a Population-Based Study*, 12 Preventative Med. Reps. 271 (2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6214874/>; Ariel Shensa et al., *Social Media Use and Depression and Anxiety Symptoms: A Cluster Analysis*, 42(2) Am. J. Health Behav. 116 (2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5904786/>.

<sup>36</sup> Twenge & Campbell, *supra* note 35, at 278.

<sup>37</sup> Fazida Karim et al., *Social Media Use and Its Connection to Mental Health: A Systemic Review*, 12(6) Cureus e8627 (2020), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7364393/>.

<sup>38</sup> *Id.*

62. Social media platforms also hurt the mental health of adolescents specifically. Increased social media platforms are associated with depressive symptoms, suicide-related outcomes, and suicide rates among adolescents.<sup>39</sup>

63. Clinicians have also observed a clear relationship between social media platforms and children's disordered eating behavior.<sup>40</sup> The more social media platform accounts adolescent have, the greater disordered eating behaviors they exhibit. Research also shows that the more time young girls spend on social media platforms, the more likely they are to develop disordered eating behaviors.<sup>41</sup>

64. Social media platform use has also caused an increase in cyberbullying. The more time individuals, especially males, spend on social media platforms, the more likely they are to commit acts of cyberbullying.<sup>42</sup> Cyberbullying is now so common that most American teens, 59 percent, have experienced some form of cyberbullying.<sup>43</sup> This number includes 42 percent of teens experiencing name-calling; 32 percent being subject to false rumors; 25 percent receiving an unsolicited explicit image; 21 percent being subject to online stalking; 16 percent receiving physical threats online; and 7 percent having had explicit images of them shared without their consent.<sup>44</sup>

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<sup>39</sup> Jean M. Twenge *et al.*, *Increases in Depressive Symptoms, Suicide-Related Outcomes, and Suicide Rates Among U.S. Adolescents After 2010 and Links to Increased New Media Screen Time*, 6 *Clinical Psych. Sci.* 3 (2017), <https://doi.org/10.1177/2167702617723376>.

<sup>40</sup> Simon M. Wilksch *et al.*, *The Relationship Between Social Media Use and Disordered Eating in Young Adolescents*, 53 *Int'l J. Eating Disorders* 96 (2020), <https://pubmed.ncbi.nlm.nih.gov/31797420/>.

<sup>41</sup> *Id.*

<sup>42</sup> Amanda Giordano *et al.*, *Understanding Adolescent Cyberbullies: Exploring Social Media Addiction and Psychological Factors*, 7(1) *J. Child & Adolescent Counseling* 42 (2021), <https://www.tandfonline.com/doi/abs/10.1080/23727810.2020.1835420?journalCode=ucac20>.

<sup>43</sup> Monica Anderson, *A Majority of Teens Have Experienced Some Form of Cyberbullying*, Pew Rsch. Ctr. (Sept. 27, 2018), <https://www.pewresearch.org/internet/2018/09/27/a-majority-of-teens-have-experienced-some-form-of-cyberbullying/>.

<sup>44</sup> *Id.*



65. Defendants have global platforms to broadcast physical fights and other disruptive behaviors.<sup>45</sup> Indeed, for some students, it seems that part of the point of the disruptive behavior is to enhance one's profile on social media platforms. Examples of such disruptive behavior relating to school settings include sexual harassment, bullying, sexting, intimidation, threats to the general school population, and general disruptive conduct resulting from these platforms. All of these issues disrupt the learning environment and require Plaintiff to expend otherwise unnecessary time and resources to deal with these behaviors.

66. Social media platform use also contributes to sleep deprivation. Young adults who spend a lot of time on social media platforms during the day or check them often throughout the week are more likely to suffer sleep disturbances than their peers who go on social media platforms infrequently.<sup>46</sup> In turn, disturbed and insufficient sleep is linked to poor health outcomes.<sup>47</sup>

67. Defendants exacerbate the disruption of sleep by their platforms' sending push notifications and emails either at night when children should be sleeping or during school hours when they should be studying, prompting children to re-engage with Defendants' platforms at times when using them harms their health, well-being, and ability to learn.<sup>48</sup>

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<sup>45</sup> See, for example, Joan Murray, *School Fights Caught on Camera, Shared on Social Media Stir Parental Concern, Calls for Moderation*, CBS (Mar. 21, 2023), <https://www.cbsnews.com/miami/news/school-fights-caught-on-camera-shared-on-social-media-stir-parental-concern-calls-for-moderation/> (Miami); Annie Rose Ramos, *Brutal Fights at Baltimore City Public Schools Spread on Social Media*, CBS (Oct. 27, 2022), <https://www.cbsnews.com/baltimore/news/brutal-fights-at-baltimore-city-public-schools-spread-on-social-media/>; Matt Kaufax & Thomas Robertson, *Loudoun Co. Middle School Students Host 'Fight Clubs' with Help From Parents*, WTOP (May 25, 2023), <https://wtop.com/loudoun-county/2023/05/loudoun-co-middle-school-students-host-fight-clubs-with-help-from-parents/>.

<sup>46</sup> Jessica C. Levenson *et al.*, *The Association Between Social Media Use and Sleep Disturbance Among Young Adults*, 85 Preventive Med. 36 (2016), <https://www.sciencedirect.com/science/article/abs/pii/S0091743516000025>.

<sup>47</sup> *Id.*

<sup>48</sup> See, e.g., Beatrice Nolan, *Kids are W Up in the Night to Check their Notifications and are Losing About 1 Night's Worth of Sleep a Week, Study Suggests*, Bus. Insider (Sept. 19, 2022), <https://www.businessinsider.com/social-media-costing-children-one-night-sleep-study-2022-9> (approximately 12.5% of children report waking up to check social media notifications).

68. Children are also especially vulnerable to developing harmful behaviors because their prefrontal cortex is not fully developed.<sup>49</sup> Consequently, they find it particularly difficult to exercise the self-control required to regulate their own time on Defendants' platforms. In this sense, self-regulation allows people to delay gratification, postponing an immediate reward for a better reward later. Adolescents' low capacity for self-regulation means they are particularly vulnerable to the immediately pleasurable but ultimately harmful effects of the repeated dopamine spikes caused by an external stimulus, such as "likes" on platforms that activate the reward system in the brain.<sup>50</sup>

69. As detailed below, these reward-based systems "contribute to the maintenance of excessive usage patterns."<sup>51</sup> Researchers investigating the "directionality between social networking [platforms] and problematic use," have found that "increases in the intensity of use . . . predict[] problematic use,"<sup>52</sup> which empirical studies have found is associated with "insomnia, stress, relationship dissatisfaction, anxiety, social anxiety, and depressive symptoms."<sup>53</sup>

70. In this way, adolescents are especially vulnerable to long-term harm from Defendants' platforms by disrupting their brains' development at a critical stage.

### **C. America's Children Are Experiencing a Social Media Platform-Caused Mental Health Crisis**

71. The number of children and the intensity on Defendants' social media platforms has skyrocketed since 2004, contributing to a wide range of harmful effects on their mental health. Over that same time, the number of children experiencing depression, contemplating or attempting suicide, seeking emergency room help for mental health issues, and – tragically – committing suicide has skyrocketed.

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<sup>49</sup> Gino Gugushvili *et al.*, *Facebook Use Intensity and Depressive Symptoms: A Moderated Mediation Model of Problematic Facebook Use, Age, Neuroticism, and Extraversion* at 3, BMC Psych. 10, 279 (2022), <https://doi.org/10.1186/s40359-022-00990-7>.

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> *Id.* (collecting sources).

72. Today, one in five children ages 3-17 in the United States has a mental, emotional, developmental, or behavioral disorder.<sup>54</sup>

73. The U.S. Surgeon General's Social Media and Youth Mental Health Advisory issued on May 23, 2023, noted that children's exposure to social media platforms is "nearly universal" with "nearly 40% of children ages 8-12 using social media" and "up to 95% of youths ages 13-17" reporting the same, "[T]here are ample indicators that social media can also have a profound risk of harm to the mental health and well-being of children and adolescents."<sup>55</sup>

74. The Surgeon General's recent advisory followed the December 7, 2021, advisory on the youth mental health crisis, which noted: "[m]ental health challenges in children, adolescents, and young adults are real and widespread. Even before the pandemic, an alarming number of young people struggled with feelings of helplessness, depression, and thoughts of suicide – and rates have increased over the past decade."<sup>56</sup>

75. Social media platform exposure among children has skyrocketed in the past decade. For example, the proportion on social media platforms multiple times a day doubled between 2012 (34%) and 2016 (70%).<sup>57</sup> Tween and teen social media platform presence grew faster between the start of COVID-19 pandemic in 2020 and March 2022 than it had over the four years before the pandemic.<sup>58</sup>

76. The surging rates of social media platform presence by children tracks with, and fueled, the spiraling mental health crisis. In 2009-2019, the rate of high school students who

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<sup>54</sup> Press Release, U.S. Dep't Health & Hum. Servs., *U.S. Surgeon General Issues Advisory on Youth Mental Health Crisis Further Exposed by COVID-19 Pandemic* (Dec. 7, 2021), <https://public3.pagefreezer.com/browse/HHS.gov/30-12-2021T15:27/https://www.hhs.gov/about/news/2021/12/07/us-surgeon-general-issues-advisory-on-youth-mental-health-crisis-further-exposed-by-covid-19-pandemic.html>.

<sup>55</sup> U.S. Dep't Health & Hum. Servs., Social Media and Youth Mental Health (2023), <https://www.hhs.gov/sites/default/files/sg-youth-mental-health-social-media-advisory.pdf>.

<sup>56</sup> U.S. Surgeon General Issues Advisory (2021), *supra* note 54.

<sup>57</sup> Common Sense Media, Social Media, Social Life: Teens Reveal Their Experiences (2018), <https://www.commonsensemedia.org/sites/default/files/research/report/2018-social-media-social-life-executive-summary-web.pdf>.

<sup>58</sup> *The Common Sense Census: Media Use by Tweens and Teen*, Common Sense Media (Mar. 9, 2022), <https://www.commonsensemedia.org/research/the-common-sense-census-media-use-by-tweens-and-teens-2021>.

reported persistent feelings of sadness or hopelessness increased by 40 percent (to one out of every three kids).<sup>59</sup> The share of youth seriously considering attempting suicide increased by 36 percent and the share of youth creating a suicide plan increased by 44 percent.<sup>60</sup>

77. From 2007 to 2019, suicide rates among children and young people (ages 10-24) in the United States increased by 57 percent.<sup>61</sup> By 2018, suicide was the second leading cause of death for them.<sup>62</sup>

78. From 2007 to 2016, emergency room visits for children ages 5-17 rose 117 percent for anxiety disorders, 44 percent for mood disorders, and 40 percent for attention disorders.<sup>63</sup>

#### **D. Defendants Intentionally Design, Build, Market, and Operate Their Social Media Platforms to Target Children and Exploit Developing Brains’ Neurochemistry**

79. This mental health crisis is no accident. It is fueled by Defendants’ deliberate choices and purposeful actions to design, build, market, and operate their social media platforms to attract children to enter them and spend excessive time on them.

80. Defendants each run and operate social media platforms with interactive features provided on their platforms being similar in many respects. For example, Facebook, Instagram, Snapchat, TikTok, and YouTube all offer tailored “feeds” generated by content-agnostic algorithms and recommendations fed by data on interactions on the platforms; ways to publicly express affirmation for such curated content through “likes,” comments, and sharing or reposting the content; and each is known to copy the designs and features of one another.<sup>64</sup> The salient features of Defendants’ social media platforms are explained below.

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<sup>59</sup> U.S. Dep’t Health & Hum. Servs., Protecting Youth Mental Health: The U.S. Surgeon General’s Advisory 8 (2021), <https://www.hhs.gov/sites/default/files/surgeon-general-youth-mental-health-advisory.pdf>.

<sup>60</sup> *Id.*

<sup>61</sup> *Id.*

<sup>62</sup> AAP-AACAP-CHA Declaration of a National Emergency in Child and Adolescent Mental Health, Am. Acad. Pediatrics (Oct. 19, 2021), <https://www.aap.org/en/advocacy/child-and-adolescent-healthy-mental-development/aap-aacap-cha-declaration-of-a-national-emergency-in-child-and-adolescent-mental-health/>.

<sup>63</sup> Matt Richtel, *A Teen’s Journey Into the Internet’s Darkness and Back Again*, N.Y. Times (Aug. 22, 2022), <https://www.nytimes.com/2022/08/22/health/adolescents-mental-health-technology.html>.

<sup>64</sup> See, e.g., Kevin Hurler, *For Sites Like Instagram and Twitter, Imitation Is the Only Form of Flattery*, Gizmodo (Aug. 16, 2022), <https://gizmodo.com/instagram-tiktok-snapchat-facebook-meta-1849395419>.

81. Defendants intentionally market their platforms to children because their social media platforms generate revenue through advertising, and children are a prime audience. Defendants collect data on viewing habits and behaviors and use that data to sell advertisers access to children to allow those companies to promote their products. Advertisers pay a premium to target specific categories, including children.

82. Defendants view children as a most valuable audience. Children are central to Defendants' business models and advertising revenue, in part because children are more likely than adults to go on social media platforms. Indeed, 95 percent of children ages 13-17 have cellphones,<sup>65</sup> 90 percent are on social media platforms,<sup>66</sup> and 28 percent buy products and services through social media platforms.<sup>67</sup>

83. For children under 13, the Children's Online Privacy Protection Act ("COPPA")<sup>68</sup> regulates the conditions under which platforms, like Defendants, can collect and use their information.

84. COPPA requires platforms that target children under age 13 or have actual knowledge of those under age 13 to obtain "verifiable parental consent" before collecting and using information about children under age 13.<sup>69</sup> Defendants have blatantly violated COPPA or turned a blind eye to children on their platforms by leaving them to self-report their age. More recently, Defendants embarked on a bolder strategy and sought to capture pre-adolescent audiences by offering "kid versions" of their platforms that, while not collecting and using their information, are reportedly "designed to fuel [kids'] interest in the grown-up version."<sup>70</sup>

85. Defendants have intentionally designed, built, marketed, distributed, and operated their platforms to maximize screen time, addicting children to their platforms, which in turn maximizes their revenue at the expense of harming children. Defendants designed and built

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<sup>65</sup> Vogels *et al.*, *supra* note 13.

<sup>66</sup> Social Media and Teens, *supra* note 10.

<sup>67</sup> Murphy *et al.*, *supra* note 21.

<sup>68</sup> See 15 U.S.C. §§ 6501-6506.

<sup>69</sup> *Id.*

<sup>70</sup> Leonard Sax, *Is TikTok Dangerous for Teens?*, Inst. Fam. Stud. (Mar. 29, 2022), <https://ifstudies.org/blog/is-tiktok-dangerous-for-teens->.

features and operated their platforms in a manner intended to exploit human psychology – an exploitation that children are particularly susceptible to because of their stage of development. Using complex content-agnostic algorithms driven by advanced artificial intelligence and machine-learning systems, Defendants have progressively modified their platforms in ways that promote excessive and problematic entering and remaining on the platforms and have done so in ways known to be harmful to children.

86. One way Defendants manipulate children to stay on or return to their platforms is through intermittent variable rewards (“IVR”). Slot machines are a frequent example of how IVR works.<sup>71</sup> Players pull a lever to win a prize. With each pull, the player may or may not win a prize (*i.e.*, an intermittent reward that varies in value).

87. IVR works by spacing out dopamine-triggering stimuli with dopamine gaps, allowing anticipation and craving to develop, and strengthening the desire to engage in the activity with each dopamine release.

88. Defendants bake IVR into the design, building, and operations of their platforms by “link[ing] a user’s action (like pulling a lever) with a variable reward.”<sup>72</sup> For example, when “we swipe down our finger to scroll the Instagram feed, we’re playing a slot machine to see what photo comes next.”<sup>73</sup> Meta, the parent company of Facebook and Instagram platforms, also delays the time it takes to load the feed. “This is because without that three-second delay, Instagram wouldn’t feel variable.”<sup>74</sup> Without that delay, anticipation would not have had time to build. In slot machine terms, there would be “no sense of *will I win?* because you’d know instantly. So, the

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<sup>71</sup> See, e.g., Julian Morgans, *The Secret Ways Social Media is Built for Addiction*, Vice (May 17, 2017), <https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction>.

<sup>72</sup> Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int’l (July 27, 2016), <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

<sup>73</sup> *Id.*

<sup>74</sup> Julian Morgans, *supra* note 71.

delay isn't the app loading. It's the cogs spinning on the slot machine."<sup>75</sup> Each of the Defendants' platforms exploits this biochemical reaction, typically using "likes," "hearts," or other forms of approval that serve as the reward.

89. These social rewards release dopamine and oxytocin in children's and adults' brains. Still, there are two key differences, as the American Psychological Association's Chief Science Officer Mitch Prinstein explained: "First, adults tend to have a fixed sense of self that relies less on feedback from peers. Second, adults have a more mature prefrontal cortex, an area that can help regulate emotional responses to social rewards."<sup>76</sup> Adolescents, by contrast, are in a "period of personal and social identity formation," much of which "is now reliant on social media."<sup>77</sup> And "[d]ue to their limited capacity for self-regulation and their vulnerability to peer pressure," adolescents "are at greater risk of developing mental disorder."<sup>78</sup> In other words, while "everyone innately responds to social approval . . . some demographics, in particular teenagers, are more vulnerable to it than others."<sup>79</sup>

90. Children are especially vulnerable to how Defendants platforms manipulate them to maximize their "watch time" and to the resulting harm because brains undergo a fundamental shift around age 10, making "preteens extra sensitive to attention and admiration from others."<sup>80</sup> Consequently, Defendants' use of IVR, and as described below, reciprocity, and other "rewards"

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<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> Betül Keles *et al.*, *A Systematic Review: The Influence of Social Media on Depression, Anxiety and Psychological Distress in Adolescents*, *Int'l J. Adolescence & Youth* (2022) 25:1, 79–93 (Mar. 3, 2019), [https://www.researchgate.net/publication/331947590\\_A\\_systematic\\_review\\_the\\_influence\\_of\\_social\\_media\\_on\\_depression\\_anxiety\\_and\\_psychological\\_distress\\_in\\_adolescents](https://www.researchgate.net/publication/331947590_A_systematic_review_the_influence_of_social_media_on_depression_anxiety_and_psychological_distress_in_adolescents).

<sup>78</sup> *Id.*

<sup>79</sup> Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int'l (July 27, 2016), <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

<sup>80</sup> Zara Abrams, *Why Young Brains are Especially Vulnerable to Social Media*, *Am. Psych. Ass'n* (Aug. 25, 2022), <https://www.apa.org/news/apa/2022/social-media-children-teens>.

to prolong and maximize time on their platforms exploits a vulnerability unique to young people. This “extra sensitivity” also puts them at greater risk.

91. In adolescence, the structures of the brain “closely tied” to social media activity and that drive instinctual behavior begin to change.<sup>81</sup> The ventral striatum is one of those structures. It receives a rush of dopamine and oxytocin, known as the “happy hormones[.]” whenever we experience social rewards.<sup>82</sup> Between the ages of 10 and 12, the receptors for those happy hormones begin to multiply in this region of the brain, which makes compliments on a new hairstyle, laughter from a classmate, or other social rewards “start to feel a lot more satisfying.”<sup>83</sup>

92. Historically, these biological changes motivated kids and teens to develop healthy social skills and connections. “But arriving at school in a new pair of designer jeans, hoping your crush will smile at you in the hallway, is worlds away from posting a video on TikTok that may get thousands of views and likes.”<sup>84</sup>

93. Part of what makes the “interactions so different,”<sup>85</sup> is that they are often permanent and public. There is no public ledger tracking the number of consecutive days you have spoken to someone, like there is, for example, for Snap “streaks.” Similarly, “[a]fter you walk away from a regular conversation, you don’t know if the other person liked it, or if anyone else liked it[.]”<sup>86</sup> Yet on Defendants’ platforms, children, their friends, and even complete strangers can publicly deliver or withhold social rewards through likes, comments, views, and follows.<sup>87</sup>

94. A second and related social media platform manipulation targeted on children is through social reciprocity. “Reciprocity,” from a psychology perspective, refers to the powerful

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<sup>81</sup> *Id.*

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> *Id.*

<sup>87</sup> *Id.*



social phenomenon of how people respond to positive or, conversely, hostile actions. Reciprocity means that, in response to friendly actions, people respond in a friendly manner and vice versa.<sup>88</sup> Phillip Kunz best illustrated the automatic nature of reciprocity through his Christmas card experiment. In the experiment, Mr. Kunz sent a group of strangers holiday cards with pictures of his family and included a brief note.<sup>89</sup> Those people, whom he had never met or communicated with before, reciprocated, flooding him with holiday cards.<sup>90</sup> Most of the responses did not even ask Mr. Kunz who he was.<sup>91</sup> They simply responded to his initial gesture with a reciprocal action.

95. Reciprocity is why Facebook and Snapchat automatically tell a “sender when you ‘saw’ their message, instead of letting you avoid disclosing whether you read it. As a consequence, you feel more obligated to respond[,]” immediately.<sup>92</sup> That keeps people on the platform or, through push notifications – another insidious tool – they feel psychologically compelled to return to the platform.

96. A third way, among many others, that Defendants maximize the time children spend on their platforms involves the design of feeds – whether of photos, videos, or sponsored or promoted content. Each uses content-agnostic algorithms and interaction data, which are applied the same way to all content, selecting not for the substance of the content but for interactions with it, amplifying content that sustains engagement. Google’s former design ethicist, Tristan Harris, explained that this never-ending stream is designed to “keep [users] scrolling, and purposely eliminate any reason for [them] to pause, reconsider or leave.”<sup>93</sup> Defendants’ feeds take “an experience that was bounded and finite, and turn it into a bottomless flow that keeps going.”<sup>94</sup> This

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<sup>88</sup> Ernst Fehr & Simon Gächter, *Fairness and Retaliation: The Economics of Reciprocity*, 14(3) J. Econ. Persps. 159–81 (2000), [https://www.researchgate.net/profile/Ernst-Fehr-2/publication/23756527\\_Fairness\\_and\\_Retaliation\\_The\\_Economics\\_of\\_Reciprocity/links/5eb024e945851592d6b87d3b/Fairness-and-Retaliation-The-Economics-of-Reciprocity.pdf](https://www.researchgate.net/profile/Ernst-Fehr-2/publication/23756527_Fairness_and_Retaliation_The_Economics_of_Reciprocity/links/5eb024e945851592d6b87d3b/Fairness-and-Retaliation-The-Economics-of-Reciprocity.pdf).

<sup>89</sup> Phillip R. Kunz & Michael Woolcott, *Season’s Greetings: From my status to yours*, 5(3) Soc. Sci. Rsch. 269–78 (Sept. 1976), [https://doi.org/10.1016/0049-089X\(76\)90003-X](https://doi.org/10.1016/0049-089X(76)90003-X).

<sup>90</sup> *Id.*

<sup>91</sup> *Id.*

<sup>92</sup> Von Tristan Harris, *The Slot Machine in Your Pocket*, Spiegel Int’l (July 27, 2016), <https://www.spiegel.de/international/zeitgeist/smartphone-addiction-is-part-of-the-design-a-1104237.html>.

<sup>93</sup> *Id.*

<sup>94</sup> *Id.*

“flow state,” as psychologists describe it, “fully immerse[s]” users, distorts their perception of time, and “has been shown to be associated with problematic use of social networking sites.”<sup>95</sup>

97. Meta, Snap, TikTok, and Google have designed, refined, marketed, distributed and operated their social media platforms to maximize the number of children on their platforms and the time they spend on them. Despite knowing that social media harms children, Defendants have continued to create and market more sophisticated versions of their platforms with features designed to keep them engaged and maximize the time they spend on the social media platforms.

98. Defendants’ efforts have worked—and continue to work. America’s children never stood a chance against highly sophisticated manipulations by some of the world’s brightest, richest, and most creative companies determined to get children hooked on their platforms. Most teenagers are on the same five social media platforms: YouTube, TikTok, Instagram, Snapchat, and Facebook.<sup>96</sup> Each of these platforms individually hosts and boasts high numbers of teenagers.

**1. Meta Intentionally Has Designed, Built, Marketed, and Operated Its Social Media Platforms for Children, Substantially Contributing to the Mental Health Crisis**

99. The Meta platforms, including Facebook and Instagram, are among the most popular social networking platforms globally, with over 3.6 billion people worldwide.<sup>97</sup>

**a. The Facebook Platform**

100. Facebook is a social networking platform that is one of Meta’s platforms.

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<sup>95</sup> See Gugushvili *supra* note 49.

<sup>96</sup> Vogels *et al.*, *supra* note 13.

<sup>97</sup> Felix Richter, *Meta Reaches 3.6 Billion People Each Month*, Statista (Oct. 29, 2021), <https://www.statista.com/chart/2183/facebooks-mobile-users/>.

101. Facebook was founded in 2004 and has become the largest social network in the world. As of the first quarter of 2023, Facebook had around 3 billion monthly active on it,<sup>98</sup> over 2 billion daily.<sup>99</sup>

102. When Facebook was founded in 2004, only students at specific colleges and universities could be on the social media platform, and college enrollment verification was required to access Facebook.

103. In 2005, Facebook expanded and became accessible to students at more universities worldwide, after which Meta launched a high school version of Facebook that also required an invitation to join.

104. Meta later expanded eligibility for Facebook to employees of several companies, including Apple and Microsoft, and added more universities to its network.

105. In September 2006, Facebook became available to all on the internet. At the time, Meta claimed that it was open only to persons aged 13 and older with a valid email address, but on information and belief, Meta did not in fact require verification of age or identity and did not actually verify email addresses, such that underage children could easily register an account with and access the Facebook platform.

106. Facebook then underwent a series of changes aimed at increasing engagement and platform growth, without regard to safety, including these changes:

- In 2009, Facebook launched the “like” button;
- In 2011, Facebook launched Messenger, its direct messaging service, and started allowing people to subscribe to accounts of non-friends;

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<sup>98</sup> S. Dixon, *Number of Monthly Active Facebook Users Worldwide as of 1st Quarter 2023 (in Millions)*, Statista (May 9, 2023), <https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/>

<sup>99</sup> S. Dixon, *Number of Daily Active Facebook Users Worldwide as of 1st Quarter 2023 (in Millions)*, Statista (May 9, 2023), <https://www.statista.com/statistics/346167/facebook-global-dau/>.

- In 2012, Facebook started showing advertisements in its news feed and launched a real-time bidding system through which advertisers could bid on targets based on their visits to third-party websites;
- In 2014, Facebook’s facial recognition algorithm (DeepFace) reached near-human accuracy in identifying faces;
- In 2015, Facebook overhauled its news feed algorithm to determine what content to show, started monitoring time looking at a post, and launched its live-streaming service;
- In 2016, Facebook launched games for its social media platform, so those on Facebook could play games without having to install new apps; and
- In 2017, Facebook launched Facebook Creator, an app for mobile video posts that assists with content creation.

**b. The Instagram Platform**

107. Instagram is a social media platform that launched in 2010, which Meta acquired for \$1 billion in April 2012.

108. Instagram enables sharing photos and videos and viewing others’ photos and videos. These photos and videos appear on Instagram “feeds,” which are virtually bottomless, scrollable lists of content.

109. After being acquired by Meta, Instagram experienced exponential growth, expanding from around active 10 million monthly in September 2012 to more than one billion worldwide today, including around 160 million in the United States.<sup>100</sup>

110. Instagram’s growth was driven by design and development changes to the Instagram platform that increased engagement at the expense of the health and well-being of children on the platform.

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<sup>100</sup> Dixon, *supra* note 99.

111. For example, in August 2020, Instagram began hosting and recommending short videos, called Reels.<sup>101</sup> Like TikTok, Instagram enables viewing an endless feed of Reels recommended by Instagram’s content-agnostic algorithm.

112. Instagram has become the most popular photo-sharing social media platform among children in the United States—about 72 percent of children aged 13-17 in the United States are on Instagram.<sup>102</sup>

**a. Meta Markets Its Platforms to Children**

113. To maximize the revenue generated from relationships with advertisers, Meta has expended significant efforts to attract young people, including teens and preteens, to its platforms, including designing features that appeal to them. Meta also views teenaged children as a way to attract others to the platforms, such as by using teenagers to recruit parents who want to participate in their children’s lives, as well as younger siblings who look to older siblings who model for which social media platforms to access and what to do on them.<sup>103</sup>

114. Meta explicitly targets teenagers. An internal Instagram marketing plan reveals that Meta knows that “[i]f we lose the teen foothold in the U.S. we lose the pipeline” for growth.<sup>104</sup> To ensure that did not happen, Meta’s Instagram devoted almost all its \$390 million annual marketing budget for 2018 to target teenagers.<sup>105</sup>

115. Meta also views preteens or “tweens” as a “valuable but untapped audience,” even contemplating “exploring playdates as a growth lever.”<sup>106</sup> Meta formed a team to study preteens, endeavored to create more products designed for them, and commissioned strategy papers regarding the “business opportunities” created.

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<sup>101</sup> *Introducing Instagram Reels*, Instagram (Aug. 5, 2020),

<https://about.instagram.com/blog/announcements/introducing-instagram-reels-announcement>.

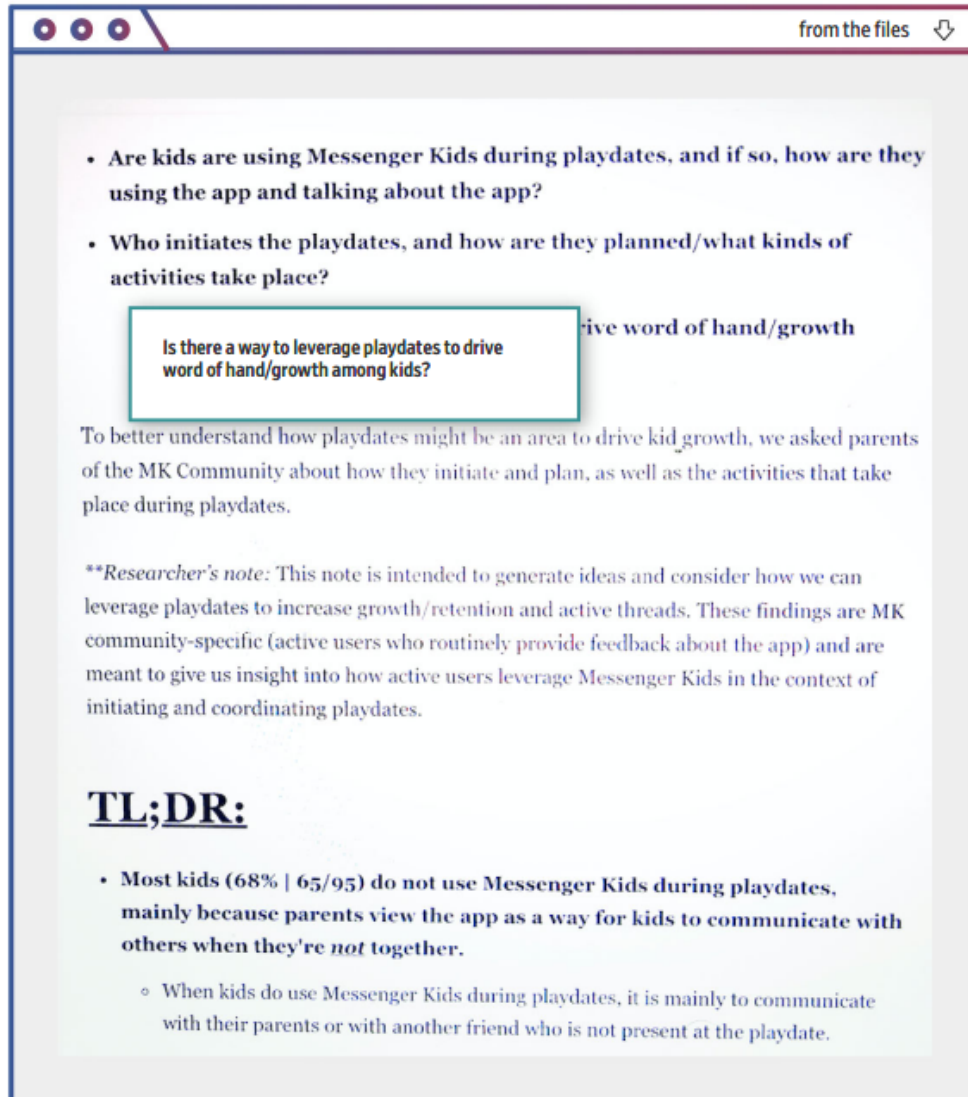
<sup>102</sup> Katherine Schaeffer, *7 Facts About Americans and Instagram*, Pew Rsch. Ctr. (Oct. 7, 2021), <https://www.pewresearch.org/fact-tank/2021/10/07/7-facts-about-americans-and-instagram/>.

<sup>103</sup> Sheera Frenkel *et al.*, *supra* note 1.

<sup>104</sup> *Id.*

<sup>105</sup> *Id.*

<sup>106</sup> *Id.*



116. For these reasons, the Meta platforms are designed for children and are actively marketed to children throughout the Meta markets in the United States. Meta advertises to children through its own efforts and through advertisers that create and target advertisements to children. Internal Meta documents establish that Meta spends hundreds of millions of dollars researching, analyzing, and marketing to children to make its platforms more appealing to them and to maximize the time they spend on its platforms, thereby addicting them in many instances to being on their platforms as these age groups are seen as essential to Meta's long-term

profitability and market dominance.<sup>107</sup> For instance, after Instagram’s founders left Meta in September 2018, “Facebook went all out to turn Instagram into a main attraction for young audiences,” and “began concentrating on the ‘teen time spent’ data point,” to “drive up the amount of time that teenagers were on the app with features including Instagram Live, a broadcasting tool, and Instagram TV, where people upload videos that run as long as an hour.”<sup>108</sup>

117. Similarly, Instagram’s popularity among young people results from Meta’s deliberate efforts to target children – which in turn is driven by the desire of advertisers and marketers to target children on Meta’s platforms. In fact, Meta’s acquisition of Instagram was mainly motivated by its desire to make up for declines in the use of Facebook by children, and Meta views Instagram as central to its ability to attract and retain young audiences. A 2018 internal Meta marketing report reflects this, lamenting the loss of teenagers to competitors’ platforms as “an existential threat.”<sup>109</sup> In contrast, a Meta presentation from 2019 indicated that “Instagram is well positioned to resonate and win with young people,” and “[t]here is a path to growth if Instagram can continue their trajectory.”

118. As for pre-teens, Meta’s policy is that they cannot register a platform account, but Meta knows the platform lacks effective age-verification protocols. Since at least 2011, Meta has known that its age-verification protocols are largely inadequate, estimating at that time that it removed 20,000 children under age 13 from Facebook every day.<sup>110</sup> In 2021, Adam Mosseri, the Meta executive in charge of Instagram, acknowledged those under 13 can still “lie about [their] age now,” to register an account access the platform.

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<sup>107</sup> *Id.*

<sup>108</sup> Frenkel *et al.*, *supra* note 1.

<sup>109</sup> *Id.*

<sup>110</sup> Austin Carr, *Facebook Booting “20,000” Underage Users Per Day: Reaction to Growing Privacy Concerns?*, Fast Co. (Mar. 22, 2011), <https://www.fastcompany.com/1741875/facebook-booting-20000-underage-users-day-reaction-growing-privacy-concerns>.

119. Meta has yet to implement platform protocols to verify age. Meta, with strong business incentives not to enforce its proclaimed policy, or to be lax in doing so, also has agreements with cell phone manufacturers, providers, and retailers, who often pre-install its platforms on mobile devices before sale and regardless of age. That is, even though Meta says it is prohibited from providing the Meta platforms to those under the age of 13, Meta actively promotes and provides underage access and entry to its platforms by encouraging and allowing cell phone manufacturers to pre-install the platforms on mobile devices indiscriminately. Consequently, around 11 percent of United States children between the ages of 9 and 11 were on the Instagram platform in 2020,<sup>111</sup> even though Meta claims to remove about 600,000 children per quarter.

120. Meta's efforts to attract children into its platforms have been successful. In a recent study, 62 percent of children ages 13-17 reported being on the Instagram platform and 32 percent of children ages 13-17 reported they were on the Facebook platform.

**b. Meta Intentionally Maximizes the Time Children Spend on Its Platforms.**

121. The Meta platforms are designed and built and operated to maximize children's presence on, and addiction to, their platforms, using features that exploit the natural human desire for social interaction and the neurophysiology of the brain's reward systems to keep them endlessly scrolling, posting, "liking," commenting, and counting the number of "likes" and comments to their own posts. The still-developing brains of children are particularly vulnerable to such exploitation.

122. One way Meta employs IVR is through its push notifications and emails, which encourage habitual use and are designed to prompt opening and be exposed to content selected to maximize time on Meta's platforms and the ads run on them. Meta spaces out notifications of likes and comments into multiple bursts rather than notifying children in real time, to create dopamine

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<sup>111</sup> Brooke Auxier *et al.*, *Parenting Children in the Age of Screens*, Pew Rsch. Ctr. (July 28, 2020), <https://www.pewresearch.org/internet/2020/07/28/childrens-engagement-with-digital-devices-screen-time/>.



gaps that leave them craving in anticipation for more. In this way, Meta’s push notifications and emails are specifically designed to manipulate them into re-entering Meta’s platforms and increasing their time on Meta’s platforms.

123. Meta also exploits IVR manipulation with one of the most defining features of its platforms: the “Like” button. Meta knows “Likes” are a source of social comparison harm, as detailed below. Several Meta employees involved in creating the Like button have since left Meta and have spoken publicly about the manipulative nature of Meta’s platforms and the harm they cause to those on it.<sup>112</sup>

124. Meta also designed and built other features of its platforms on IVR principles, such as posts, comments, tagging, and the “pull to refresh” feature (similar to the way that slot machines work).

125. Other design decisions were motivated by the reciprocity feature, such as the use of visual cues to reflect that someone is currently writing a message (a feature designed to keep a child on the platform until they receive the message) and alerting them when a recipient has read their message (which encourages the recipient to respond and return to the platform to check for a response).

126. The Meta platforms are designed to encourage posting content, likes, commenting, and interacting with others’ posts. Each new post on a feed functions as a dopamine-producing social interaction in children’s brains. Similarly, likes, comments, and other interactions with posts serve as an even stronger dopamine-producing stimulus than seeing new posts from others. This, in turn, drives generating content they expect will generate many likes and comments. In this way, Meta has designed its platforms to function in concert, as popular content posted by others psychologically compels posting similar content themselves, trapping children with their

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<sup>112</sup> See, e.g., Paul Lewis, ‘Our Minds Can Be Hijacked’: The Tech Insiders Who Fear a Smartphone Dystopia, *Guardian* (Oct. 6, 2017), <https://www.theguardian.com/technology/2017/oct/05/smartphone-addiction-silicon-valley-dystopia>.

developing young brains navigating treacherous periods of personal and social identity formation—in endless cycles of “little dopamine loops.”<sup>113</sup>

**c. Meta’s Content-Agnostic Algorithms Are Manipulative and Harmful to Children**

127. Meta also operates its platform by employing advanced computer algorithms and artificial intelligence to make its platforms more engaging, and habit-forming as possible. Children are particularly vulnerable and harmed by these attracting strategies, given their developing brains and stage in development. For example, the Meta platforms are designed and built to display content and recommendations employed and customized to each child by using sophisticated content-agnostic algorithms. The proprietary services developed through such algorithms include News Feed (a newsfeed of stories and posts on the platform, some of which are posted by connections and others that are suggested by Meta’s algorithms), People You May Know (algorithm-based suggestions of persons with common connections or background), Suggested for You, Groups You Should Join, and Discover (algorithm-based recommendations of groups). Such algorithm-based content and recommendations are pushed to those on the platforms in a steady stream as the child on the platform navigates it, as well as through notifications sent to smartphones and email addresses when the child has exited the platform.

128. Meta’s content-agnostic platform algorithms are not based exclusively on requests or even inputs. Those algorithms combine information entered or posted by the child on the platform with the their demographics and other data points collected and synthesized by Meta, make assumptions about that their interests and preferences, make predictions about what else might appeal to them, and then make very specific recommendations of posts and pages to view and groups to visit and join on the platform based on rankings that will optimize Meta’s key

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<sup>113</sup> Allison Slater Tate, *Facebook Whistleblower Frances Haugen Says Parents Make 1 Big Mistake with Social Media*, Today (Feb. 7, 2022), <https://www.today.com/parents/teens/facebook-whistleblower-frances-haugen-rcna15256>.

performance indicators. In this way, Meta’s design dictates the way content is presented, such as its ranking and prioritization.<sup>114</sup>

129. Meta’s use of content-agnostic algorithms within its platforms is driven and designed to maximize engagement and addiction to their platform thereby harming children. Over time, Meta has transitioned away from chronological ranking, which organized the interface according to when content was posted or sent, to prioritizing Meaningful Social Interactions (“MSI”), which emphasizes connections and interactions such as likes and comments and gives greater significance to the interactions of connections that appeared to be the closest. Meta thus developed and employed an “amplification algorithm” to execute engagement-based ranking, which considers a post’s likes, shares, and comments, as well as past interactions with similar content, and exhibits the post in the newsfeed if it otherwise meets certain benchmarks.

130. Meta’s content-agnostic algorithms within its platforms covertly operate on the principle that intense reactions invariably compel attention within the platforms. Because these algorithms measure reactions and contemporaneously immerse children on the platforms in the most reactive content, these algorithms effectively work to steer them toward the most negative content, because negative content routinely elicits passionate reactions.

131. Due to its focus on engagement on the platforms, Meta’s platform algorithms promote content that is objectionable and harmful to many children. As set forth in greater detail below, Meta was well-aware of the harmful content that its platforms were promoting but failed to change its algorithms because the content that its algorithms were feeding operated to fuel return to the platforms and led to more time within them—which in turn helped Meta sell more advertisements that generate most of its revenue. As such, Meta’s algorithms within the platforms promote harmful content because such content increases engagement, which thereby increases its appeal to advertisers and increases its overall value and profitability.

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<sup>114</sup> See, e.g., Adam Mosseri, *Shedding More Light on How Instagram Works*, Instagram (June 8, 2021), <https://about.instagram.com/blog/announcements/shedding-more-light-on-how-instagram-works>.

132. Meta’s shift from chronological ranking to content-agnostic algorithm-driven ranking and recommendations has changed the Meta platforms in ways that are profoundly dangerous and harmful to children, whose psychological susceptibility to habit-forming presence on platforms put them at great risk of harm from the Meta platforms’ exploitive and harmful features. In this way, the algorithms used by Meta’s platforms exploit children’s diminished decision-making capacity, impulse control, emotional maturity, and psychological resiliency caused by their incomplete brain development—and Meta specifically designs its platforms with these vulnerabilities in mind.

**d. Meta’s Harmful “Feeds”**

133. Children are also particularly harmed by Facebook’s and Instagram’s platforms feeds.

134. Both the Facebook and Instagram operate their platforms by showing developing children a “feed” generated by an algorithm for that particular child, which consists of a series of photos and videos posted by people that the child follows, along with advertising and content specifically selected and promoted by Meta’s platforms.

135. These feeds are virtually bottomless lists of content that enable children to scroll endlessly without any natural end points that would otherwise encourage them to move on to other activities. In this way, “[u]nlike a magazine, television show, or video game,” the Meta platforms only rarely prompt the children to take a break by using “stopping cues.”<sup>115</sup> Meta’s “bottomless scrolling” feature is designed to encourage children to stay on its platforms for unlimited periods of time.

136. Meta’s platforms also exert control over a child’s feed through certain ranking mechanisms, escalation loops, and promotion of advertising and material specifically selected and promoted by the platforms based on, among other things, ongoing planning, assessment, and

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<sup>115</sup> See Zara Abrams, *How Can We Minimize Instagram’s Harmful Effects?*, Am. Psych. Ass’n (Dec. 2, 2021), <https://www.apa.org/monitor/2022/03/feature-minimize-instagram-effects>.

prioritization of the types of information most likely to increase accessing and staying on the platforms.

137. As described above, the algorithms generating a child's feed encourage excessive time on the platform, particularly where the content-agnostic algorithm is designed to prioritize the number of interactions rather than the quality of interactions.

138. In this way, Meta's platforms use children's private information to "precisely target [them] with content and recommendations, assessing what will provoke a reaction," which is how Meta "can push teens into darker and darker places."<sup>116</sup>

139. Meta's Instagram platform features a feed of "Stories," which are short-lived photo or video posts that are accessible only for 24 hours. This feature encourages constant, repeated, and compulsive presences on the Instagram platform, so that children do not miss out on content before it disappears. As with other feeds, the presentation of content in Stories is generated by a content-agnostic algorithm designed to maximize the length of time on the platform.

140. The Instagram platform also features a feed called "Explore," which displays content posted by people - not previously "followed." The content in "Explore" is selected and presented by a content-agnostic algorithm designed, built, and operated within the platform by Meta to maximize the length of time on the platform. As with other feeds, the Explore feature may be scrolled endlessly, and its algorithm will continually generate new recommendations, encouraging children to stay on the platform for unlimited periods of time.

141. The Instagram platform also features a feed called "Reels," which presents short video posts by people - not previously "followed." These videos play automatically, without input

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<sup>116</sup> See *Facebook Whistleblower Frances Haugen Testifies on Children & Social Media Use: Full Senate Hearing Transcript* at 09:02, Rev (Oct. 5, 2021), <https://www.rev.com/blog/transcripts/facebook-whistleblower-frances-haugen-testifies-on-children-social-media-use-full-senate-hearing-transcript> (statement by Mr. Chairman Blumenthal)

from the child, encouraging them to stay on the platform for indefinite periods of time. As with other feeds, Reels content is selected and presented by a content-agnostic algorithm designed by Meta to maximize the time spent on the platform.

**e. For Years, Meta Has Known That Its Platforms Harm Children**

142. In an internal slide presentation in 2019, Meta’s own researchers studying the Instagram’s platform’s effects on children concluded that “[w]e make body image issues worse for one in three teen girls[.]” This presentation was one of many documents leaked by former Meta employee Frances Haugen to journalists at the *Wall Street Journal* and federal regulators in 2021.<sup>117</sup> The *Wall Street Journal*’s reporting on the documents began in September 2021 and caused a national and international uproar.

143. The leaked documents confirmed what social scientists have long suspected, that social media platforms like Meta’s—and Instagram in particular—can cause serious harm to the mental and physical health of children. Moreover, this capacity for harm is by design—what makes the Meta platforms profitable is precisely what harms children on the platforms.

144. Upon information and belief, at least as far back as 2019, Meta started a Proactive Incident Response experiment, which began researching the effect of Meta’s platforms on the mental health of today’s children.<sup>118</sup> Meta’s own in-depth analyses show significant mental health issues stemming from being on the Instagram platform among teenage girls, many of whom linked suicidal thoughts and eating disorders to their experiences on the platform. In this way, Meta’s researchers have repeatedly found that the Instagram platform is harmful for many teens that are on it.<sup>119</sup>

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<sup>117</sup> The *Wall Street Journal* and *Digital Wellbeing* published several of these documents in November 2021. See Paul Marsden, *The ‘Facebook Files’ on Instagram Harms—All Leaked Slides on a Single Page*, Digit. Wellbeing (Oct. 20, 2021), <https://digitalwellbeing.org/the-facebook-files-on-instagram-harms-all-leaked-slides-on-a-single-page/>. Gizmodo also started publishing these documents in November 2021. See Dell Cameron *et al.*, *Read the Facebook Papers for Yourself*, Gizmodo (Apr. 18, 2022), <https://gizmodo.com/facebook-papers-how-to-read-1848702919>.

<sup>118</sup> See *Facebook Whistleblower Testifies on Protecting Children Online*, C-SPAN (Oct. 5, 2021), <https://www.c-span.org/video/?515042-1/whistleblower-frances-haugen-calls-congress-regulate-facebook>.

<sup>119</sup> *Id.*

145. In particular, the researchers found that “[s]ocial comparison,” or peoples’ assessment of their own value relative to that of others, is “worse on Instagram” for teens than on other social media platforms.<sup>120</sup> One in five teens reported that Instagram “makes them feel worse about themselves.”<sup>121</sup> Roughly two in five teens reported feeling “unattractive,” while one in 10 teens reporting suicidal thoughts traced them to Instagram.<sup>122</sup> Teens “consistently” and without prompting blamed Instagram “for increases in the rate of anxiety and depression.”<sup>123</sup> And although teenagers identify Instagram as a source of psychological harm, they often lack the self-control to go on Instagram less. Also, according to Meta’s own researchers, children are not capable of controlling their Instagram presence to protect their own health.<sup>124</sup> They “often feel ‘addicted’ and know that what they’re seeing is bad for their mental health but feel unable to stop themselves.”<sup>125</sup>

146. Similarly, in a March 2020 presentation posted to Meta’s internal message board, researchers found that “[t]hirty-two percent of teen girls said that when they felt bad about their bodies, Instagram made them feel worse.”<sup>126</sup> Sixty-six percent of teen girls and 40 percent of teen boys have experienced negative social comparison harms on Instagram.<sup>127</sup> Further, around 13 percent of teen-girl’s on Instagram say the platform makes thoughts of “suicide and self-harm” worse, and 17 percent of teen-girls on Instagram say the platform makes “[e]ating issues” worse.<sup>128</sup> Meta’s researchers also acknowledged that “[m]ental health outcomes” related to the use of the Instagram platform “can be severe,” including “Body Dissatisfaction,” “Body Dysmorphia,” “Eating Disorders,” “Loneliness,” and “Depression.”<sup>129</sup>

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<sup>120</sup> *Id.*

<sup>121</sup> *Id.*

<sup>122</sup> *Id.*

<sup>123</sup> *Id.*

<sup>124</sup> *Id.*

<sup>125</sup> *Id.*

<sup>126</sup> *Id.*; *Teen Girls Body Image and Social Comparison on Instagram—An Exploratory Study in the U.S.*, Wall St. J. (Sept. 29, 2021), <https://digitalwellbeing.org/wp-content/uploads/2021/10/Facebook-Files-Teen-Girls-Body-Image-and-Social-Comparison-on-Instagram.pdf>; see also *Hard Life Moments-Mental Health Deep Dive* at 14, Facebook (Nov. 2019), <https://about.fb.com/wp-content/uploads/2021/09/Instagram-Teen-Annotated-Research-Deck-1.pdf>; Marsden, *supra* note 117, at slide 14 (Oct. 20, 2021) <https://digitalwellbeing.org/the-facebook-files-on-instagram-harms-all-leaked-slides-on-a-single-page> (hard life moment – mental health deep dive).

<sup>127</sup> *Teen Girls Body Image*, *supra* note 126 at 9.

<sup>128</sup> *Hard Life Moments*, *supra* note 126 at 14; Marsden, *supra* note 117, at slide 14.

<sup>129</sup> *Teen Girls Body Image*, *supra* note 126 at 34.

147. In addition to Meta’s being aware of the harmful nature of the features of its platforms, the leaked documents reveal that Meta is aware of the specific design features that lead to excessive amounts of time on the platforms and harm to children. For instance, Meta knows that Instagram’s Explore, Feed, and Stories features contribute to social comparison harms “in different ways.”<sup>130</sup> Moreover, specific “[a]spects of Instagram exacerbate each other to create a perfect storm” of harm to those on the platform, and the “social comparison sweet spot”—a place of considerable harm to children, particularly teenagers and teen girls—lies at the center of Meta’s business model and its platforms’ features.<sup>131</sup> In this regard, Meta’s researchers wrote that “[s]ocial comparison and perfectionism are nothing new, but young people are dealing with this on an unprecedented scale,” and “[c]onstant comparison on Instagram is ‘the reason’ why there are higher levels of anxiety and depression in young people.”<sup>132</sup>

## 2. Snapchat Has Intentionally Designed, Built, Marketed, and Operated Its Social Media Platform for Children, Substantially Contributing to the Mental Health Crisis

148. Snapchat was created in 2011 by Stanford University students Evan Spiegel and Bobby Murphy, who serve as Snap Inc.’s CEO and CTO, respectively.<sup>133</sup>

149. Snapchat started as a photo sharing platform allowing groups to form and share photos, known as “snaps,” that disappeared after being viewed by the recipients. Snapchat became well-known for this self-destructing content feature. But Snapchat quickly evolved from a simple photo-sharing app, as Snap made design changes and rapidly developed new platform features aimed at, and ultimately increasing, Snapchat’s popularity among teenagers.

150. In 2012, Snap added video sharing capabilities, pushing the number of “snaps” on its platform to 50 million per day.<sup>134</sup> A year later, Snap added the “Stories” function, which allows

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<sup>130</sup> *Id.* at 31.

<sup>131</sup> *Id.* at 33.f

<sup>132</sup> *See Hard Life Moments*, *supra* note 117 at 53.

<sup>133</sup> Katie Benner, *How Snapchat is Shaping Social Media*, N.Y. Times (Nov. 30, 2016), <https://www.nytimes.com/2016/11/30/technology/how-snapchat-works.html>.

<sup>134</sup> J.J. Colao, *Snapchat Adds Video, Now Seeing 50 Million Photos A Day*, Forbes (Dec. 14, 2012),



for uploading a rolling compilation of snaps that friends can view on the platform for 24 hours.<sup>135</sup> The next year, Snap added a platform feature that enabled communication in real time via text or video.<sup>136</sup> It also added the “Our Story” feature, expanding on the original Stories function by allowing those in the same location to add their photos and videos to a single publicly viewable content stream.<sup>137</sup> At the same time, Snap added the capability to add filters and graphic stickers onto photos indicating location, through a feature it calls “Geofilters.”<sup>138</sup>

151. In 2015, Snap added a “Discover” feature promoting videos from news outlets and other content creators.<sup>139</sup> Those on the platform can watch that content by scrolling through the Discover feed. After the selected video ends, the Snapchat platform automatically plays other video content in a continuous stream unless or until the viewer manually exits from the stream.

152. In 2020, Snap, to keep up with competitors, added the “Spotlight” feature to the platform through which it serves “an endless feed of user-generated content” from the 300 million daily on the Snapchat platform.<sup>140</sup>

153. Today, Snapchat is one of the largest social media platforms in the world with 363 million people on it daily, including 100 million in North America.<sup>141</sup> Snapchat encompasses 90 percent of people ages 13-24 in over twenty countries and is on nearly half of all smartphones in the United States.<sup>142</sup>

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<https://www.forbes.com/sites/jjcolao/2012/12/14/snapchat-adds-video-now-seeing-50-million-photos-a-day/?sh=55425197631b>.

<sup>135</sup> Ellis Hamburger, *Snapchat’s Next Big Thing: ‘Stories’ That Don’t Just Disappear*, Verge (Oct. 3, 2013), <https://www.theverge.com/2013/10/3/4791934/snapchats-next-big-thing-stories-that-dont-just-disappear>.

<sup>136</sup> Romain Dillet, *Snapchat Adds Ephemeral Text Chat and Video Calls*, TechCrunch (May 1, 2014), <https://techcrunch.com/2014/05/01/snapchat-adds-text-chat-and-video-calls/>.

<sup>137</sup> Laura Stampler, *Snapchat Just Unveiled a New Feature*, Time (June 17, 2014), <https://time.com/2890073/snapchat-new-feature/>.

<sup>138</sup> Angela Moscaritolo, *Snapchat Adds ‘Geofilters’ in LA, New York*, PC Mag. (July 15, 2014), <https://www.pcmag.com/news/snapchat-adds-geofilters-in-la-new-york>.

<sup>139</sup> Steven Tweedie, *How to Use Snapchat’s New ‘Discover’ Feature*, Bus. Insider (Jan. 27, 2015), <https://www.businessinsider.com/how-to-use-snapchat-discover-feature-2015-1>.

<sup>140</sup> Salvador Rodriguez, *Snap is launching a competitor to TikTok and Instagram Reels*, CNBC (Nov. 23, 2020), <https://www.cnbc.com/2020/11/23/snap-launching-a-competitor-to-tiktok-and-instagram-reels.html>.

<sup>141</sup> *October 2022 Investor Presentation*, Snap Inc., at 5 (Oct. 20, 2022), <https://investor.snap.com/events-and-presentations/presentations/default.aspx>.

<sup>142</sup> *Id.* at 6-7.

**a. Snap Markets Its Platform to Children**

154. Snap’s commercial success comes from advertising on the Snapchat platform. In 2014, Snap began running advertisements on Snapchat.<sup>143</sup> Since then, Snap’s business model has revolved around its advertising revenue, which has boomed. Snap now expects to generate \$4.86 billion in Snapchat platform advertising revenue for 2022.<sup>144</sup>

155. Snap specifically markets and tries to addict Snapchat to children ages 13-17 because they are a key demographic for Snap’s advertising business. Internal documents describe 13-to-34-year-olds as “critical” to Snap’s advertising success because of the common milestones achieved within that age range.<sup>145</sup>

156. While Snap lumps teenagers in with younger adults in its investor materials, Snap marketing materials featuring young models reveal that children and other youth are its priority market.

157. Along with its marketing, Snap has targeted a younger audience by designing and building the Snapchat platform in a manner that older individuals find hard to use.<sup>146</sup> The effect is that Snapchat is a platform where its children are insulated from their parents. As Snap’s CEO explained, “[w]e’ve made it very hard for parents to embarrass their children[.]”<sup>147</sup>

158. Snap also designed and built the Snapchat platform as a place for children to hide content from their parents by ensuring that photos, videos, and chat messages quickly disappear; this further insulates children from adult oversight.

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<sup>143</sup> Sara Fischer, *A timeline of Snap’s advertising, from launch to IPO*, Axios (Feb. 3, 2017), <https://www.axios.com/2017/12/15/a-timeline-of-snaps-advertising-from-launch-to-ipo-1513300279>.

<sup>144</sup> Bhanvi Staija, *TikTok’s ad revenue to surpass Twitter and Snapchat combined in 2022*, Reuters (Apr. 11, 2022), <https://www.reuters.com/technology/tiktoks-ad-revenue-surpass-twitter-snapchat-combined-2022-report-2022-04-11/>.

<sup>145</sup> *October 2022 Investor Presentation*, Snap Inc., at 27 (Oct. 20, 2022), <https://investor.snap.com/events-and-presentations/presentations/default.aspx>.

<sup>146</sup> See Hannah Kuchler & Tim Bradshaw, *Snapchat’s Youth Appeal Puts Pressure on Facebook*, Fin. Times (Aug. 21, 2017), <https://www.ft.com/content/07e4dc9e-86c4-11e7-bf50-e1c239b45787>.

<sup>147</sup> Max Chafkin & Sarah Frier, *How Snapchat Built a Business by Confusing Olds*, Bloomberg (Mar. 3, 2016), <https://www.bloomberg.com/features/2016-how-snapchat-built-a-business/>.

159. Snap also added a platform feature enabling creation of cartoon avatars.<sup>148</sup> By using an artform generally associated with and directed at child audiences, Snap further designed and built the Snapchat platform to entice teenagers and younger children.

160. In 2013, Snap also marketed Snapchat specifically to children under 13 through a feature it branded “SnapKidz.”<sup>149</sup> This feature – part of the Snapchat platform – allowed children under 13 to take photos, draw on them, and save them locally on the device.<sup>150</sup> Then children could also send these images to others or upload them to other social media sites.<sup>151</sup>

161. While SnapKidz feature was later discontinued and Snap purports to prohibit children under 13 now, its executives have admitted that its age verification “is effectively useless in stopping underage users from signing up to the Snapchat app.”<sup>152</sup>

162. Snap’s efforts to attract children have been successful. Teenagers consistently name Snapchat as a favorite social media platform. The latest figures show 13 percent of children ages 8-12 on Snapchat in 2021,<sup>153</sup> and almost 60 percent of children ages 13-17 on Snapchat.<sup>154</sup>

**b. Snap Intentionally Maximizes the Time Children Spend on Its Platform.**

163. Snap promotes excessive time on its platform through design features and manipulative content-agnostic algorithms intended to maximize screen time.

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<sup>148</sup> Kif Leswing, *Snapchat Just Introduced a Feature It Paid More Than \$100 Million For*, Bus. Insider (July 19, 2016), <https://www.businessinsider.com/snapchat-just-introduced-a-feature-it-paid-more-than-100-million-for-2016-7>.

<sup>149</sup> Larry Magid, *Snapchat Creates SnapKidz – A Sandbox for Kids Under 13*, Forbes (June 23, 2013), <https://www.forbes.com/sites/larrymagid/2013/06/23/snapchat-creates-snapkidz-a-sandbox-for-kids-under-13/?sh=7c682a555e5a>.

<sup>150</sup> *Id.*

<sup>151</sup> *Id.*

<sup>152</sup> Isobel Asher Hamilton, *Snapchat Admits Its Age Verification Safeguards are Effectively Useless*, Bus. Insider (Mar. 19, 2019), <https://www.businessinsider.com/snapchat-says-its-age-verification-safeguards-are-effectively-useless-2019-3>

<sup>153</sup> Victoria Rideout *et al.*, *Common Sense Census: Media Use by Tweens and Teens, 2021* at 5, Common Sense Media (2022), [https://www.common Sense Media.org/sites/default/files/research/report/8-18-census-integrated-report-final-web\\_0.pdf](https://www.common Sense Media.org/sites/default/files/research/report/8-18-census-integrated-report-final-web_0.pdf).

<sup>154</sup> Vogels *et al.*, *supra* note 13.

164. Snap has implemented inherently and intentionally exploitive features into Snapchat, including “Snapstreaks,” various trophies and reward systems, quickly disappearing (“ephemeral”) messages, and filters. Snap designed these features, along with others, to maximize time spent on the Snapchat platform.

165. Snaps are intended to manipulate those on the platform by activating the rule of reciprocity.<sup>155</sup> They are designed to encourage a person who gets a snap to feel obligated to send a snap back. And Snapchat pushes a notification of a received snap to the recipient’s cellphone. These notifications are designed to prompt going on the Snapchat platform and viewing content, increasing the time spent on Snapchat. Further, because snaps disappear within ten seconds of being viewed, recipients feel compelled to reply immediately. This disappearing nature of snaps is a defining characteristic of Snapchat and is intended to keep children on the platform.

166. Snap also keeps children coming back to the Snapchat platform through the “Snapstreaks” feature.<sup>156</sup> A “streak” is a counter on Snapchat that tracks how many consecutive days two people have sent each other snaps. The streak ends if one fails to snap the other within 24 hours. Snap adds extra urgency by putting an hourglass emoji next to a friend’s name if a Snapchat streak is about to end.<sup>157</sup> This design implements a platform system fostering “check[ing]

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<sup>155</sup> Nir Eyal, *The Secret Psychology of Snapchat*, Nir & Far (Apr. 14, 2015), <https://www.nirandfar.com/psychology-of-snapchat/>.

<sup>156</sup> See Avery Hartmans, *These Are the Sneaky Ways Apps Like Instagram, Facebook, Tinder Lure You In and Get You Addicted*, Bus. Insider (Feb. 17 2018), <https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1#snapchat-uses-snapstreaks-to-keep-you-hooked-13>; see generally Virginia Smart & Tyana Grundig, *‘We’re Designing Minds’: Industry Insider Reveals Secrets of Addictive App Trade*, CBC (Nov. 3, 2017), <https://www.cbc.ca/news/science/marketplace-phones-1.4384876>; Julian Morgans, *The Secret Ways Social Media is Built for Addiction*, Vice (May 17, 2017), <https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction>.

<sup>157</sup> Lizette Chapman, *Inside the Mind of a Snapchat Streaker*, Bloomberg (Jan. 30, 2017), <https://www.bloomberg.com/news/features/2017-01-30/inside-the-mind-of-a-snapchat-streaker>.

constantly or risk missing out.”<sup>158</sup> And this feature is particularly effective on teenagers. “For teens in particular, streaks are a vital part of using the app, and of their social lives as a whole.”<sup>159</sup> Some children become so obsessed with maintaining a Snapstreak that they give their friends access to their accounts when they may be away from their phone for a day or more, such as on vacation.<sup>160</sup>

167. Snap also designed features that operate on IVR principles to maximize time on its platform. The “rewards” come in the form of a “Snapscore,” and other signals of recognition similar to “likes” built into other platforms. For example, a Snapscore increases with each snap sent and received. The increase in score and other trophies and charms operate on variable reward patterns. Like Snapstreaks, these features are designed to incentivize sending snaps and increase the time spent on the Snapchat platform.

168. Snap also designs and builds photo and video filters and lenses, which are central to Snapchat’s function as a photo and video sharing social media platform. Snap designed its filters and lenses in a way to further maximize the amount of time spent on the Snapchat platform. One way that Snap uses its filters to hook children is by creating temporary filters that impose a sense of urgency to use them before they disappear. Another way Snap designed its filters to increase screentime on the platform is by gamification. Many filters include games,<sup>161</sup> creating competition between children by sending each other snaps with scores. Snap tracks data on the most common

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<sup>158</sup> *Id.*

<sup>159</sup> Hartmans, *supra* note 156; see generally Cathy Becker, *Experts Warn Parents How Snapchat Can Hook in Teens with Streaks*, ABC News (July 27, 2017), <https://abcnews.go.com/Lifestyle/experts-warn-parents-snapchat-hook-teens-streaks/story?id=48778296>.

<sup>160</sup> Caroline Knorr, *How To Resist Technology Addiction*, CNN (Nov. 9, 2017), <https://www.cnn.com/2017/11/09/health/science-of-tech-obsession-partner/index.html>; Jon Brooks, *7 Specific Tactics Social Media Companies Use to Keep You Hooked*, KQED (June 9, 2017), <https://www.kqed.org/futureofyou/397018/7-specific-ways-social-media-companies-have-you-hooked>.

<sup>161</sup> Josh Constine, *Now Snapchat Has ‘Filter Games,’* TechCrunch (Dec. 23, 2016), <https://techcrunch.com/2016/12/23/snapchat-games/>.

filters and develops new filters based on this data.<sup>162</sup> And Snap personalizes filters to keep enticing individuals to be on Snapchat more.<sup>163</sup> Snap designs and modifies these filters to maximize the time spent on Snapchat.

**c. Snapchat’s Content-Agnostic Algorithms Are Manipulative and Harmful**

169. Snap also operates its platform by employing content-agnostic algorithms to suggest friends on Snapchat and recommend content to promote staying on Snapchat.

170. Snap notifies those on the Snapchat platform whether a person should add someone else as a friend on Snapchat; known as “Quick Add,” this uses an algorithm to suggest friends, increasing the odds of adding friends, sending additional snaps, and spending more time on the platform.

171. Snapchat also contains “Discover” and “Spotlight” features that use algorithms to recommend content. The Discover feature includes content from news and other media outlets.<sup>164</sup> An algorithm populates a Discover page on the platform and constantly changes depending on interaction with the content.<sup>165</sup> Similarly, the Spotlight feature promotes popular videos from others on Snapchat and is based on an algorithm determining whether engagement with similar content was positive or negative.<sup>166</sup> Snap programs its algorithms to push content that will keep those on the platform engaged on Snapchat thereby increasing the time spent on Snapchat.

**d. Snap’s Conduct in Designing, Building, and Operating Its Platform Has Attracted Children and Harmed Their Mental Health**

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<sup>162</sup> *How We Use Your Information*, Snap Inc., <https://snap.com/en-US/privacy/your-information> (last visited July, 6, 2023).

<sup>163</sup> *Id.*

<sup>164</sup> Steven Tweedie, *How to Use Snapchat’s New ‘Discover’ Feature*, Bus. Insider (Jan. 27, 2015), <https://www.businessinsider.com/how-to-use-snapchat-discover-feature-2015-1>.

<sup>165</sup> *How We Use Your Information*, *supra* note 162.

<sup>166</sup> Sara Fischer, *Snapchat launches Spotlight, a TikTok competitor*, Axios (Nov. 23, 2020), <https://www.axios.com/2020/11/23/snapchat-launches-spotlight-tiktok-competitor>; <https://snap.com/en-US/privacy/your-information>.

172. The way Snap has designed, built, and operated the Snapchat platform has fueled increased anxiety, depression, disordered eating, cyberbullying, and sleep deprivation in young people.

173. Snap knows or should know Snapchat is harming children because Snap intentionally designed, built and operated Snapchat to maximize time on the platform by preying on the psychology of children through its use of algorithms and other features, including Snapstreaks, various trophies and reward systems, quickly disappearing messages, filters, and games.

174. Snap has known, or certainly should have known, that its conduct has been and is harming children. Snap's conduct has been the subject of inquiries by the United States Senate regarding the Snapchat platform's use "to promote bullying, worsen eating disorders, and help teenagers buy dangerous drugs or engage in reckless behavior."<sup>167</sup> Further, Senators from across the ideological spectrum have introduced bills that would ban many features of the Snapchat platform, including badges and other awards focused on levels of engagement on the platform.<sup>168</sup> Despite these calls for oversight from Congress, Snap has failed to curtail its use of streaks, badges, and other awards that focus on levels of engagement on Snapchat.

175. Snap also has known, or certainly should have known, of Snapchat's other negative effects on children because of published research findings. For instance, the Journal of the American Medical Association has reported that Snapchat's effect on how children view themselves is so severe that it named a new disorder, "Snapchat dysmorphia," after the platform.<sup>169</sup> This disorder describes people, usually young women, seeking plastic surgery to make themselves

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<sup>167</sup> Bobby Allyn, *4 Takeaways From the Senate Child Safety Hearing with YouTube, Snapchat and TikTok*, Nat'l Pub. Radio (Oct. 26, 2021), <https://www.npr.org/2021/10/26/1049267501/snapchat-tiktok-youtube-congress-child-safety-hearing>.

<sup>168</sup> See Abigail Clukey, *Lawmaker Aims To Curb Social Media Addiction With New Bill*, Nat'l Pub. Radio (Aug. 3, 2019), <https://www.npr.org/2019/08/03/747086462/lawmaker-aims-to-curb-social-media-addiction-with-new-bill>; *Social Media Addiction Reduction Technology Act*, S. 2314, 116th Cong. (2019); *Kids Internet Design and Safety Act*, S. 2918, 117th Cong. (2021).

<sup>169</sup> 'Snapchat Dysmorphia': When People Get Plastic Surgery To Look Like A Social Media Filter, WBUR (Aug 29, 2018), <https://www.wbur.org/hereandnow/2018/08/29/snapchat-dysmorphia-plastic-surgery>.

look like the way they do through Snapchat filters.<sup>170</sup> The rationale underlying this disorder is that beauty filters on social media platforms, like Snapchat, create a “sense of unattainable perfection” that alienates and damages a person’s self-esteem.<sup>171</sup> One social psychologist summed the effect as “the pressure to present a certain filtered image on social media can certainly play into [depression and anxiety] for younger people who are just developing their identities.”<sup>172</sup>

176. Despite knowing that Snapchat harms children on the platform, Snap continues to update and add features intentionally designed to maximize the time children spend on Snapchat. Snap continues its harmful conduct because its advertising revenue relies on children spending excessive time on the Snapchat platform being exposed to large volumes of content there.

### **3. TikTok Has Intentionally Designed, Built, Marketed, and Operated Its Social Media Platform for Children, Substantially Contributing to the Mental Health Crisis Among Children**

177. TikTok is a social media platform that describes itself as “the leading destination for short-form mobile video.”<sup>173</sup> According to TikTok, it is primarily a platform to “create and watch short-form videos.”<sup>174</sup>

178. TikTok’s predecessor platform, Musical.ly, launched in 2014 as a place where people could create and share 15-second videos of themselves lip-syncing or dancing to their favorite music.<sup>175</sup>

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<sup>170</sup> *Id.*

<sup>171</sup> Nathan Smith & Allie Yang, *What Happens When Lines Blur Between Real and Virtual Beauty Through Filters*, ABC News (May 1, 2021), <https://abcnews.go.com/Technology/lines-blur-real-virtual-beauty-filters/story?id=77427989>.

<sup>172</sup> *Id.*

<sup>173</sup> *About: Our Mission*, TikTok, <https://www.tiktok.com/about> (last visited July 7, 2023).

<sup>174</sup> *Protecting Kids Online: Snapchat, TikTok, and YouTube: Hearing Before the Subcomm. on Consumer Prot., Prod. Safety, and Data Sec.*, 117 Cong. (2021) (statement of Michael Beckerman, VP and Head of Public Policy, Americas, TikTok).

<sup>175</sup> Biz Carson, *How a Failed Education Startup Turned into Musical.ly, the Most Popular App You’ve Probably Never Heard Of*, Bus. Insider (May 28, 2016), <https://www.businessinsider.com/what-is-musically-2016-5>.



179. In 2017, ByteDance launched an international version of a similar platform that enabled those on it to create and share short lip-syncing videos called TikTok.<sup>176</sup>

180. That same year, ByteDance acquired Musical.ly to leverage the youth base in the United States, of almost 60 million monthly.<sup>177</sup>

181. Months later, the platforms were merged under the TikTok brand.<sup>178</sup>

182. Since then, TikTok has expanded the length of time for videos from 15-seconds to up to 10 minutes,<sup>179</sup> created a fund expected to grow to over \$1 billion within three years to encourage the creation of videos that even more people will watch,<sup>180</sup> debut their own songs, share comedy skits,<sup>181</sup> and “challenge” others to perform an activity on the platform.<sup>182</sup>

183. The videos created on TikTok are only one part of the equation.

184. “[O]ne of the defining features of the TikTok platform,” is its “For You” feed.<sup>183</sup> There, those on the platform are served an unending stream of videos TikTok provides based on complex, machine-learning algorithms intended to keep them on its platform. TikTok itself

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<sup>176</sup> Dave, *China’s ByteDance Scrubs Musical.ly Brand in Favor of TikTok*, Reuters (Aug. 1, 2018), <https://www.reuters.com/article/us-bytedance-musically/chinas-bytedance-scrubs-musical-ly-brand-in-favor-of-tiktok-idUSKBN1KN0BW>.

<sup>177</sup> Liza Lin & Rolfe Winkler, *Social-Media App Musical.ly Is Acquired for as Much as \$1 Billion: With 60 Million Monthly Users, Startup Sells to Chinese Maker of News App Toutiao*, Wall St. J. (Nov. 10, 2017), <https://www.wsj.com/articles/lip-syncing-app-musical-ly-is-acquired-for-as-much-as-1-billion-1510278123>.

<sup>178</sup> Dave, *supra* note 176.

<sup>179</sup> Andrew Hutchinson, *TikTok Confirms that 10 Minute Video Uploads are Coming to All Users*, SocialMediaToday (Feb. 28, 2022), <https://www.socialmediatoday.com/news/tiktok-confirms-that-10-minute-video-uploads-are-coming-to-all-users/619535/>.

<sup>180</sup> Vanessa Pappas, *Introducing the \$200M TikTok Creator Fund*, TikTok (July 29, 2021), <https://newsroom.tiktok.com/en-us/introducing-the-200-million-tiktok-creator-fund>.

<sup>181</sup> Joseph Steinberg, *Meet Musical.ly, the Video Social Network Quickly Capturing the Tween and Teen Markets*, Inc. (June 2, 2016), <https://www.inc.com/joseph-steinberg/meet-musically-the-video-social-network-quickly-capturing-the-tween-and-teen-m.html>.

<sup>182</sup> John Herrman, *How TikTok is Rewriting the World*, N.Y. Times (Mar. 10, 2019), <https://www.nytimes.com/2019/03/10/style/what-is-tik-tok.html>.

<sup>183</sup> *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020), <https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you>.

describes the feed as “central to the TikTok experience and where most of our users spend their time.”<sup>184</sup> The *New York Times* described it this way:

It’s an algorithmic feed based on videos you’ve interacted with, or even just watched. It never runs out of material. It is not, unless you train it to be, full of people you know, or things you’ve explicitly told it you want to see. It’s full of things that you seem to have demonstrated you want to watch, no matter what you actually say you want to watch.<sup>185</sup>

185. The “For You” feed quickly garnered TikTok hundreds of millions of people on the platform. Since 2018, TikTok has grown from 271 million globally to more than 1 billion monthly as of September 2021.<sup>186</sup>

**a. TikTok Markets Its Platform to Children**

186. TikTok, like the other Defendants’ platforms, focuses its business plan on addicting children to being on its social media platform and generating advertising revenue, which has boomed. In 2022, TikTok’s ad revenue hit around \$10 billion<sup>187</sup> over half of which (\$6 billion) came from the United States.<sup>188</sup> Its 2023 ad revenue is expected to be more than \$13 billion<sup>189</sup> – \$9 billion of which is expected to come from the U.S. market.<sup>190</sup>

187. Since its inception as Musical.ly, TikTok has been designed and developed with a focus on children.

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<sup>184</sup> *Id.*

<sup>185</sup> Herrman, *supra* note 182.

<sup>186</sup> Jessica Bursztynsky, *TikTok says 1 Billion People Use the App Each Month*, CNBC (Sept. 27, 2021), <https://www.cnn.com/2021/09/27/tiktok-reaches-1-billion-monthly-users.html>.

<sup>187</sup> Prathana Prakash, *What TikTok Ban? Brands Actually Increased Their Ad Spending on the App Last Month Despite a High-Profile Congressional Hearing*, Fortune (Apr. 6, 2023), <https://fortune.com/2023/04/06/tiktok-ban-china-bytedance-increased-ad-spending/>.

<sup>188</sup> *TikTok US Revenue (2021-2024)*, <https://www.oberlo.com/statistics/tiktok-us-revenue>; Bhanvi Staija, *TikTok’s Ad Revenue to Surpass Twitter and Snapchat Combined in 2022*, Reuters (Apr. 11, 2022), <https://www.reuters.com/technology/tiktoks-ad-revenue-surpass-twitter-snapchat-combined-2022-report-2022-04-11/>.

<sup>189</sup> *TikTok Ad Revenue (2021-2025)*, <https://www.oberlo.com/statistics/tiktok-ad-revenue>.

<sup>190</sup> *TikTok US Revenue (2021-2024)*, <https://www.oberlo.com/statistics/tiktok-us-revenue>.

188. Alex Zhu and Louis Yang, co-founders of Musical.ly, raised \$250,000 to build a platform that experts could use to create short three-to-five-minute videos explaining a subject.<sup>191</sup> The day they released the app, Zhu said they knew “[i]t was doomed to be a failure” because “[i]t wasn’t entertaining, and it didn’t attract teens.”<sup>192</sup>

189. According to Zhu, he stumbled upon the idea that would become known as TikTok while observing teens on a train, half of whom were listening to music while the other half took selfies or videos and shared the results with friends.<sup>193</sup> “That’s when Zhu realized he could combine music, videos, and a social network to attract the early-teen demographic.”<sup>194</sup>

190. Zhu and Yang then developed the short-form video platform that is now known as TikTok, which commentators have observed “encourages a youthful audience in subtle and obvious ways.”<sup>195</sup>

191. Among the more subtle ways TikTok markets the platform to children is its design and content. For example, the Federal Trade Commission (“FTC”) alleged that it initially centered on a child-oriented activity (lip syncing); featured music by celebrities that then appealed mainly to teens and tweens, such as Selena Gomez and Ariana Grande; labeled folders with names meant to appeal to young people, such as “Disney” and “school”; included songs in such folders related to Disney television shows and movies, such as “Can You Feel the Love Tonight” from the movie “The Lion King” and “You’ve Got a Friend in Me” from the movie “Toy Story” and songs covering school-related subjects or school-themed television shows and movies.<sup>196</sup>

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<sup>191</sup> Carson, *supra* note 175.

<sup>192</sup> *Id.*

<sup>193</sup> *Id.*

<sup>194</sup> *Id.*

<sup>195</sup> John Herrman, *Who’s Too Young for an App? Musical.ly Tests the Limits*, N.Y. Times (Sept. 16, 2016), <https://www.nytimes.com/2016/09/17/business/media/a-social-network-frequented-by-children-tests-the-limits-of-online-regulation.html>.

<sup>196</sup> Complaint for Civil Penalties, Permanent Injunction, and Other Equitable Relief (“*Musical.ly* Complaint”) at 8, ¶¶ 26–27, *United States v. Musical.ly*, 2:19-cv-01439-ODW-RAO (C.D. Cal. Feb. 27, 2019) (ECF Dkt. No. 1).

192. The child target demographic was also reflected in the sign-up process. In 2016, the birthdate for those signing up for the platform defaulted to the year 2000 (*i.e.*, 16 years old).<sup>197</sup>

193. TikTok also cultivated a child demographic in unmistakable, though concealed, ways. In 2020, *The Intercept* reported on a document TikTok prepared instructing that videos of “senior people with too many wrinkles” are disqualified from the “For You” feed because that would make “the video . . . much less attractive [and] not worth[] . . . recommend[ing.]”<sup>198</sup>

194. In December 2016, Zhu confirmed the company had actual knowledge that “a lot of the top users are under 13.”<sup>199</sup>

195. The FTC alleged that, despite the company’s knowledge and that a “significant percentage” were under 13, the company violated COPPA.<sup>200</sup>

196. TikTok settled those claims in 2019 by agreeing to pay what was then the largest ever civil penalty under COPPA and to several forms of injunctive relief.<sup>201</sup>

197. After the consent decree, TikTok made available to children under 13 what it describes as a “limited, separate app experience.”<sup>202</sup> The child version of TikTok restricts them from posting videos through the platform. Children can still, however, record and watch videos on

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<sup>197</sup> Melia Robinson, *How to Use Musical.ly, the App with 150 Million Users that Teens are Obsessed With*, Bus. Insider (Dec. 7, 2016), <https://www.businessinsider.com/how-to-use-musically-app-2016-12>.

<sup>198</sup> Sam Biddle *et al.*, *Invisible Censorship: TikTok Told Moderators to Suppress Posts by “Ugly” People and the Poor to Attract New Users*, Intercept (Mar. 15, 2020), <https://theintercept.com/2020/03/16/tiktok-app-moderators-users-discrimination/>.

<sup>199</sup> Jon Russell, *Musical.ly Defends Its Handling of Young Users, As it Races Past 40M MAUs*, TechCrunch, at 8:58–11:12 (Dec. 6, 2016), <https://techcrunch.com/2016/12/06/musically-techcrunch-disrupt-london/>.

<sup>200</sup> See generally *Musical.ly Complaint*, *supra* note 196.

<sup>201</sup> Lesley Fair, *Largest FTC COPPA Settlement Requires Musical.ly to Change Its Tune*, FTC (Feb. 27, 2019), <https://www.ftc.gov/business-guidance/blog/2019/02/largest-ftc-coppa-settlement-requires-musically-change-its-tune>.

<sup>202</sup> Dami Lee, *TikTok Stops Young Users from Uploading Videos After FTC Settlement*, Verge (Feb. 27, 2019), <https://www.theverge.com/2019/2/27/18243510/tiktok-age-young-user-videos-ftc-settlement-13-childrens-privacy-law>.

TikTok.<sup>203</sup> For that reason, experts fear the platform is “designed to fuel [kids’] interest in the grown-up version.”<sup>204</sup>

198. Zhu describes “[t]eenagers in the U.S. [as] a golden audience.”<sup>205</sup> TikTok’s efforts to cater to its “golden audience” have been successful. Over 66 percent of children ages 13-17 report having been on the TikTok platform.

**b. TikTok Intentionally Maximizes the Time Children Spend on its Platform.**

199. TikTok employs design elements and complex content-agnostic algorithms to simulate variable reward patterns in a flow-inducing stream of short-form videos on the platform intended to capture children’s attention well after satiation.

200. Like the other Defendants’ social media platforms, TikTok developed features that exploit psychological phenomena such as IVR and reciprocity to maximize the time spent on its platform.

201. TikTok drives habitual presence on its platform by using design elements that operate on IVR principles. For example, TikTok designed its platform to allow liking and resharing videos. Those features serve as rewards for those who create content on the platform. Receiving a like or reshare indicates that others approve of the content and satisfies the natural desire for acceptance.<sup>206</sup> Studies have shown that “likes” activate the reward region of the brain.<sup>207</sup> The release of dopamine in response to likes creates a positive feedback loop.<sup>208</sup> Children will go on the TikTok platform – again and again – in hope of another pleasurable experience.<sup>209</sup>

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<sup>203</sup> *Id.*

<sup>204</sup> Sax, *supra* note 70.

<sup>205</sup> *Id.*

<sup>206</sup> See, e.g., Lauren E. Sherman *et al.*, *The Power of the Like in Adolescence: Effects of Peer Influence on Neural and Behavioral Responses to Social Media*, 27(7) Psych. Sci. 1027 (July 2016), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5387999/>.

<sup>207</sup> *Id.*

<sup>208</sup> Rasan Burhan & Jalal Moradzadeh, *Neurotransmitter Dopamine (DA) and Its Role in the Development of Social Media Addiction*, 11(7) J. Neurology & Neurophysiology 507 (2020), <https://www.iomcworld.org/open-access/neurotransmitter-dopamine-da-and-its-role-in-the-development-of-social-media-addiction.pdf>

<sup>209</sup> *Id.*

202. TikTok also uses reciprocity to manipulate to attract children to the platform. TikTok invokes reciprocity through features like “Duet.” The Duet feature enables posting a video side-by-side with a video from another and promotes reactions to videos. The response is intended to engender a reciprocal response from the creator of the original video.

203. TikTok, like Snapchat, offers video filters, lenses, and music, which are intended to promote staying on its platform. Also, like Snapchat, TikTok has gamified its platform through “challenges.” These challenges invite competition in performing a specific task. By fostering competition, TikTok incentivizes engagement on the platform.

204. TikTok’s defining feature, its “For You” feed, is a never-ending stream of short-form videos intended to promote staying on the platform. In that way, TikTok feeds keep people on the platform beyond the point where they are satiated. The ability to scroll ad infinitum, coupled with the variable reward pattern, induces a flow-like state that distorts the sense of time.<sup>210</sup> That flow is yet another way TikTok increases the time spent on its platform.

**c. TikTok’s Algorithms Are Manipulative.**

205. The first thing seen when a person goes on the TikTok platform is the “For You” feed, even if they have never posted anything, followed anyone, or liked a video.<sup>211</sup>

206. “For You” presents a “stream of videos” TikTok claims are “curated to [each user’s] interests.”<sup>212</sup>

207. According to TikTok, the platform populates the “For You” feed by “ranking videos based on a combination of factors” that include, among others, any interests expressed when a person first went on the platform, i.e., registered a new account, videos liked, accounts they

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<sup>210</sup> Christian Montag *et al.*, *Addictive Features of Social Media/Messenger Platforms and Freemium Games against the Background of Psychological and Economic Theories*, 16(14) Int’l J. Env’t Rsch. & Pub. Health 2612 (July 23, 2019), <https://doi.org/10.3390/ijerph16142612>.

<sup>211</sup> Brian Feldman, *TikTok is Not the Internet’s Eden*, N.Y. Mag. (Mar. 16, 2020), <https://nymag.com/intelligencer/2020/03/tiktok-didnt-want-you-to-see-ugly-or-poor-people-on-its-app.html>

<sup>212</sup> *How TikTok recommends videos #ForYou*, TikTok (June 18, 2020), <https://newsroom.tiktok.com/en-us/how-tiktok-recommends-videos-for-you>.

followed, hashtags, captions, sounds in a video they watched, and certain device settings, such as their language preferences and where they are located.<sup>213</sup>

208. Some factors weigh heavier than others on the platform. TikTok explains that an indicator of interest, such as “whether a user finishes watching a longer video from beginning to end, would receive greater weight than a weak indicator, such as whether the video’s viewer and creator are both in the same country.”<sup>214</sup>

209. TikTok claims it ranks videos in this way because how much time is spent watching a video is a “strong indicator of interest[.]”<sup>215</sup>

210. But Zhu offered a different explanation, he repeatedly told interviewers that he was “focused primarily on increasing the engagement of existing users.”<sup>216</sup> “Even if you have tens of millions of users,” Zhu explained, “you have to keep them *always* engaged.”<sup>217</sup>

211. The decisions TikTok made in programming its platform algorithms were and are intended to do just that, as TikTok stated in an internal document titled, “TikTok Algo 101.” The document, which TikTok has confirmed is authentic, “explains frankly that in the pursuit of the company’s ‘ultimate goal’ of adding daily active users, it has chosen to optimize for two closely related metrics in the stream of videos it serves: ‘retention’ – that is, whether a user comes back – and ‘time spent.’”<sup>218</sup>

212. “This system means that watch time is key.”<sup>219</sup> Guillaume Chaslot, the founder of Algo Transparency, who reviewed the document at the request of the *New York Times*, explained that “rather than giving [people] what they really want,” TikTok’s “algorithm tries to get people addicted[.]”<sup>220</sup>

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<sup>213</sup> *Id.*

<sup>214</sup> *Id.*

<sup>215</sup> *Id.*

<sup>216</sup> Steinberg, *supra* note 181.

<sup>217</sup> Carson, *supra* note 175.

<sup>218</sup> Ben Smith, *How TikTok Reads Your Mind*, N.Y. Times (Dec. 5, 2021), <https://www.nytimes.com/2021/12/05/business/media/tiktok-algorithm.html>.

<sup>219</sup> *Id.*

<sup>220</sup> *Id.*

213. Put another way, the platform algorithm, coupled with the design elements, conditions those on the platform through reward-based learning processes to facilitate the formation of habit loops that encourage excessive time on the platform.

214. The result is that TikTok uses “a machine-learning system that analyzes each video and tracks user behavior so that it can serve up a continually refined, never-ending stream of TikToks optimized to hold attention.”<sup>221</sup>

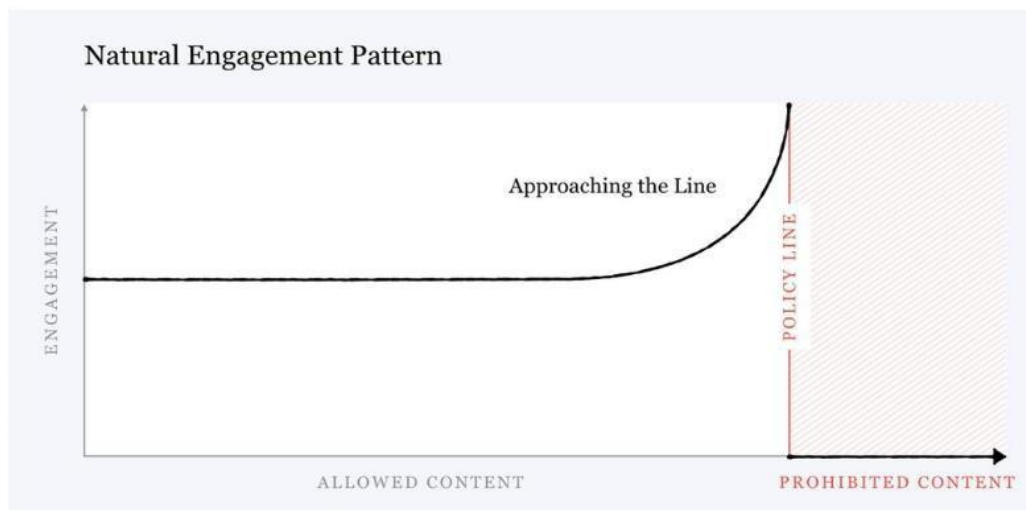
**d. TikTok’s Conduct in Designing, Building, and Operating Its Platform Has Harmed Children’s Mental Health**

215. TikTok’s decision to program its platform algorithm to prioritize engagement on the platform causes harm to its “golden audience,” the child market it has cultivated.

216. The Integrity Institute, a nonprofit of engineers, product managers, data scientists, and others, has demonstrated how prioritizing engagement amplifies misinformation on TikTok (and other platforms).<sup>222</sup> The Integrity Institute notes that that pattern is “true for a broad range of harms,” on top of misinformation.<sup>223</sup>

217. The Integrity Institute’s analysis builds on a premise Mark Zuckerberg described as the “Natural Engagement Pattern.”<sup>224</sup>

218. This chart shows that as content gets closer and closer to becoming harmful, it gets more engagement on average.



2),  
[r-dashboard](#); see  
 .Y. Times (Oct. 13,  
 t.html.

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<sup>224</sup> Mark Zuckerberg, *A Blueprint for Content Governance and Enforcement*, Facebook (May 5, 2021), <https://www.facebook.com/notes/751449002072082/>.



219. According to Zuckerberg “no matter where we draw the lines for what is allowed, as a piece of content gets close to that line, people will engage with it more on average[.]”<sup>225</sup>

220. This has important implications for platform design, as the Integrity Institute explains:

when platforms use machine learning models to predict user engagement on content, we should expect the predicted engagement to follow the actual engagement. When those predictions are used to rank and recommend content, specifically when a higher predicted engagement score means the content is more likely to be recommended or placed at the top of feeds, then we expect that misinformation will be preferentially distributed and amplified on the platform.<sup>226</sup>

221. Put differently, if you use past platform engagement to predict future engagement, as TikTok does, you are most likely to populate the “For You” feed with harmful content.

222. The Integrity Institute tested its theory by analyzing a category of harmful content: misinformation. The Integrity Institute compared the amount of engagement (*e.g.*, number of views) a post containing misinformation received as compared to prior posts from the same content creator.<sup>227</sup>

223. For example, a TikTok poster’s historical posts received on average 75,000 views. When that same person posted a false statement (as determined by the International Fact Checking Network), the post received 775,000 views. In this case, TikTok amplified the misinformation 10 times more than the typical content.<sup>228</sup>

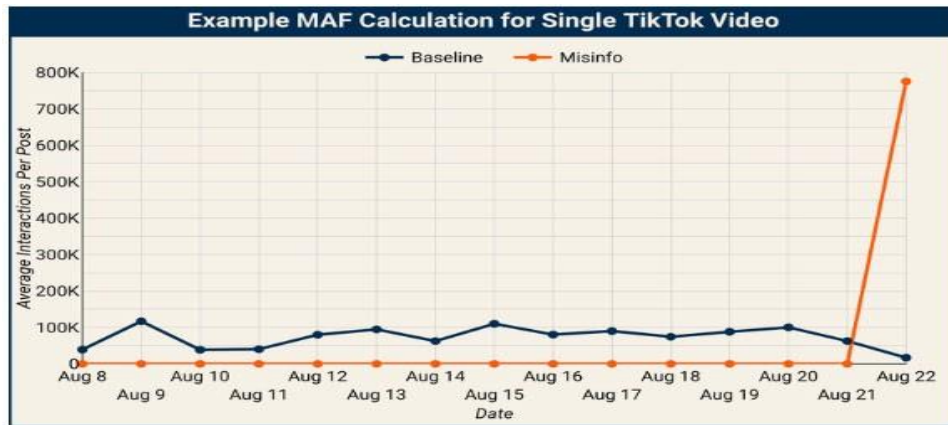
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<sup>225</sup> *Id.*

<sup>226</sup> *Misinformation Amplification Analysis*, *supra* note 222.

<sup>227</sup> *Id.*

<sup>228</sup> *Id.*



224. After analyzing many posts from others, the Integrity Institute found that the TikTok platform on average amplified misinformation 29 times more than other content.<sup>229</sup>

225. A separate investigation by *NewsGuard* also found TikTok’s search algorithm similarly amplified misinformation. Like its “For You” feed, TikTok’s search engine is a favorite among young people, with 40 percent preferring it (and Instagram) over Google.<sup>230</sup> *NewsGuard* found that 1 in 5 of the top 20 TikTok search results on prominent news topics, such as school shootings and COVID vaccines, contain misinformation.<sup>231</sup>

226. In one investigation, the *Wall Street Journal* found TikTok’s algorithm quickly pushed those on the platform down rabbit holes where they were more likely to encounter harmful content. By having 100 bots scroll through the “For You” feed, The *Wall Street Journal* investigated how TikTok’s algorithm promotes content.<sup>232</sup> Each bot was programmed with interests, such as extreme sports, forestry, dance, astrology, and animals.<sup>233</sup> Those interests were not disclosed while registering the bots’ accounts.<sup>234</sup> Rather, the bots revealed their interests

<sup>229</sup> *Id.*

<sup>230</sup> Wanda Pogue, *Move Over Google. TikTok is the Go-To Search Engine for Gen Z*, Adweek (Aug. 4, 2022), <https://www.adweek.com/social-marketing/move-over-google-tiktok-is-the-go-to-search-engine-for-gen-z/>.

<sup>231</sup> *Misinformation Monitor*, NewsGuard (Sept. 2022), <https://www.newsguardtech.com/misinformation-monitor/58september-2022/>.

<sup>232</sup> *Inside TikTok’s Algorithm: A WSJ Video Investigation*, Wall St. J. (July 21, 2021), <https://www.wsj.com/articles/tiktok-algorithm-video-investigation-11626877477>.

<sup>233</sup> *Id.*

<sup>234</sup> *Id.*

through their behaviors, specifically the time they spent on the platform watching the videos TikTok recommended to them. Consistent with TikTok’s internal “Algo 101” document, the *Wall Street Journal* found that time spent watching videos to be “the most impactful data on [what] TikTok serves you.”<sup>235</sup>

227. Over 26 minutes, one bot watched 224 videos, lingering over videos with hashtags for “depression” or “sad.”<sup>236</sup> From then on, 93 percent of the videos TikTok showed this account were about depression or sadness.<sup>237</sup>

228. That is not an outlier. Guillaume Chaslot, a former engineer for Google who worked on the algorithm for YouTube and the founder of Algo Transparency, explained that 90– 95 percent of the content seen on TikTok is based on its algorithm.<sup>238</sup>

229. “Even bots with general mainstream interests got pushed to the margin as recommendations got more personalized and narrow.”<sup>239</sup> Deep in these rabbit holes, the *Wall Street Journal* found “users are more likely to encounter potential harmful content.”<sup>240</sup> For example, one video the *Wall Street Journal* encountered encouraged suicide, reading “Just go. Leave. Stop trying. Stop pretending. You know it and so do they. Do Everyone a favor and leave.”<sup>241</sup>

230. Chaslot explained why TikTok feeds this content to those on the platform:

[T]he algorithm is able to find the piece of content that you’re vulnerable to. That will make you click, that will make you watch, but it doesn’t mean you really like it. And that it’s the content that you enjoy the most. It’s just the content that’s most likely to make you stay on the platform.<sup>242</sup>

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<sup>235</sup> *Id.*

<sup>236</sup> *Id.*

<sup>237</sup> *Id.*

<sup>238</sup> *Id.*

<sup>239</sup> *Id.*

<sup>240</sup> *Id.*

<sup>241</sup> *Id.*

<sup>242</sup> *Id.*

231. A follow-up investigation by the *Wall Street Journal* using bots found “that through its powerful algorithms, TikTok can quickly drive minors—among those with the biggest presence on the platform—into endless spools of content about sex and drugs.”<sup>243</sup>

232. The bots in this investigation were registered as aged 13 to 15 and, as before, programmed to show interest by how long they watched the videos TikTok’s algorithms served them.<sup>244</sup> The bots scrolled through videos that did not match their interests without pausing.<sup>245</sup> The bots lingered on videos that matched any of their programmed interests.<sup>246</sup>

233. Every second the bot hesitated or re-watched a video again proved key to what the TikTok platform recommended, which the *Wall Street Journal* found was used to “drive users of any age deep into rabbit holes of content[.]”<sup>247</sup>

234. For example, one bot was programmed to pause on videos referencing drugs, among other topics. The first day on the platform, the “account lingered on a video of a young woman walking through the woods with a caption” referencing “stoner girls.”<sup>248</sup> The next day the bot viewed a video of a “marijuana-themed cake.”<sup>249</sup> The “majority of the next thousand videos” TikTok directed at the teenage account “tout[ed] drugs and drug use, including marijuana, psychedelics and prescription medication.”<sup>250</sup>

235. TikTok similarly zeroed in on and narrowed the videos it showed. In the first couple of days, TikTok showed the bots a “high proportion of popular videos.”<sup>251</sup> “But after three days, TikTok began serving a high number of obscure videos.”<sup>252</sup>

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<sup>243</sup> Rob Barry *et al.*, *How TikTok Serves up Sex and Drug Videos to Minors*, Wall St. J. (Sept. 8, 2021), [https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944?st=e92pu5734lvc7ta&reflink=desktopwebshare\\_permalink](https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944?st=e92pu5734lvc7ta&reflink=desktopwebshare_permalink).

<sup>244</sup> *Id.*

<sup>245</sup> *Id.*

<sup>246</sup> *Id.*

<sup>247</sup> *Id.*

<sup>248</sup> *Id.*

<sup>249</sup> *Id.*

<sup>250</sup> *Id.*

<sup>251</sup> *Id.*

<sup>252</sup> *Id.*

236. For example, a bot registered as a 13-year-old was shown a series of popular videos upon signing up.<sup>253</sup> The bot, which was programmed to show interest in sexual text and imagery, also watched sexualized videos. Later, “[i]t experienced one of the most extreme rabbit holes among the *Wall Street Journal*’s accounts. Many videos described how to tie knots for sex, recover from violent sex acts and discussed fantasies about rape.”<sup>254</sup> At one point, “more than 90 percent of [one] account’s video feed was about bondage and sex.”<sup>255</sup>

237. At least 2,800 of the sexualized videos that were shown to the *Wall Street Journal*’s bots were labeled as being for adults only.<sup>256</sup> Yet the TikTok platform directed these videos to children because, as TikTok told the *Wall Street Journal*, it does not “differentiate between videos it serves to adults and minors.”<sup>257</sup>

238. TikTok also directed a concentrated stream of videos at accounts programmed to show interest in various topics. One such account was programmed to linger over hundreds of Japanese film and television cartoons. “In one streak of 150 videos, all but four” of the videos TikTok directed at the account, “featured Japanese animation—many with sexual themes.”<sup>258</sup>

239. The relentless stream of content intended to keep people on the platform “can be especially problematic for young people,” because they may lack the capability to stop watching, says David Anderson, a clinical psychologist at the nonprofit mental health care provider, The Child Mind Institute.<sup>259</sup>

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<sup>253</sup> *Id.*

<sup>254</sup> *Id.*

<sup>255</sup> *Id.*

<sup>256</sup> *Id.*

<sup>257</sup> *Id.*

<sup>258</sup> *Id.*

<sup>259</sup> *Id.*

240. In a similar investigation, the *Wall Street Journal* found TikTok “flood[ed] teen users with videos of rapid-weight-loss competitions and ways to purge food that health professionals say contribute to a wave of eating-disorder cases spreading across the country.”<sup>260</sup>

241. In this investigation, the *Wall Street Journal* analyzed the tens of thousands of videos TikTok recommended to a dozen bots registered as 13-year-olds. As before, the bots were given interests. Bots scrolled quickly through videos that did not match their interests and lingered on videos that did.<sup>261</sup> The accounts registered as 13-year-olds were programmed at different times to display interests in weight loss, gambling, and alcohol.<sup>262</sup>

242. “TikTok’s algorithm quickly g[a]ve[] users the content they’ll watch, for as long as they’ll watch it.”<sup>263</sup> For example, TikTok streamed gambling videos to a bot registered to a 13-year-old after it first searched for and favorited several such videos.<sup>264</sup> When the bot began demonstrating interest in weight loss videos, the algorithm adapted quickly, as this chart demonstrates.<sup>265</sup>

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<sup>260</sup> Tawnell D. Hobbs *et al.*, *The Corpse Bride Diet: How TikTok Inundates Teens with Eating-Disorder Videos*, Wall St. J. (Dec. 17, 2021), <https://www.wsj.com/articles/how-tiktok-inundates-teens-with-eating-disorder-videos-11639754848> (some of the accounts performed searches or sent other, undisclosed signals indicating their preferences).

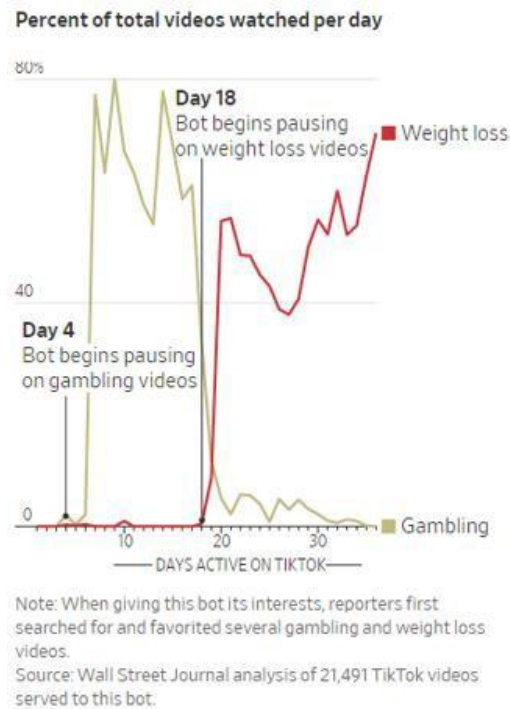
<sup>261</sup> *Id.*

<sup>262</sup> *Id.*

<sup>263</sup> *Id.*

<sup>264</sup> *Id.*

<sup>265</sup> *Id.*



243. After the change in programming, weight-loss videos accounted for well over 40 percent of the content TikTok’s algorithm recommended.<sup>266</sup>

244. The other accounts were also flooded with weight-loss videos. Over about 45 days, TikTok inundated the accounts with more than 32,000 such videos, “many promoting fasting, offering tips for quickly burning belly fat and pushing weight-loss detox programs and participation in extreme weight-loss competitions.”<sup>267</sup> Some encouraged purging, eating fewer than 300 calories a day, consuming nothing but water some days, and other hazardous diets.<sup>268</sup>

245. According to Alyssa Moukheiber, a treatment center dietitian, TikTok’s powerful algorithm and the harmful streams of content it directs at the young can tip them into unhealthy behaviors or trigger a relapse.<sup>269</sup>

<sup>266</sup> *Id.*

<sup>267</sup> *Id.*

<sup>268</sup> *Id.*

<sup>269</sup> *Id.*

246. Unfortunately, it has done exactly that for the several teenage girls interviewed by the *Wall Street Journal*, who reported developing eating disorders or relapsing after being influenced by the extreme diet videos TikTok promoted to them.<sup>270</sup>

247. They are not alone. Katie Bell, a co-founder of the Healthy Teen Project, “said the majority of her 17 teenage residential patients told her TikTok played a role in their eating disorders.”<sup>271</sup>

248. Others, like Stephanie Zerwas, an associate professor of psychiatry at the University of North Carolina at Chapel Hill, could not recount how many of her young patients told her that “I’ve started falling down this rabbit hole, or I got really into this or that influencer on TikTok, and then it started to feel like eating-disorder behavior was normal, that everybody was doing that.”<sup>272</sup>

249. This trend extends nationwide. The National Association of Anorexia Nervosa and Associated Disorders has fielded 50 percent more calls to its hotline in the last three years, most of whom it says are from young people or parents on their behalf.<sup>273</sup>

250. Despite the ample evidence that TikTok’s design, building, and operation of its platform harms the tens of millions of young people who use it, TikTok continues to manipulate them into returning to the platform again and again to be served ads in between the exploitive content it amplifies.

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<sup>270</sup> *Id.*

<sup>271</sup> *Id.*

<sup>272</sup> *Id.*

<sup>273</sup> *Id.*



**4. YouTube Intentionally Designed, Built and Operated Its Social Media Platform for, and Marketed It to, Children, Substantially Contributing to the Mental Health Crisis**

251. YouTube is a platform where people can post, share, view, and comment on videos related to a vast range of topics. The platform became available publicly in December 2005, and was acquired by Google in 2006.

252. YouTube reports that it has billions of people monthly logged-in on its platform.<sup>274</sup> Even more people access YouTube each month because people do not have to register an account to view a video on YouTube. As a result, anyone can view most content on YouTube—regardless of age.

253. Those on the platform, whether logged in or not, watch *billions of hours of videos every day*.<sup>275</sup>

254. Those with accounts can post their own videos, comment on others, and since 2010 express their approval of videos through “likes.”<sup>276</sup>

255. Beginning in 2008 and through today, YouTube has recommended videos to those on the platform.<sup>277</sup> Early on, the videos YouTube recommended were the most popular videos across the platform.<sup>278</sup> YouTube admits “[n]ot a lot of people watched those videos[,]” at least not based on its recommendation.<sup>279</sup>

256. Since then, YouTube has designed and refined its recommendation system using machine learning algorithms that today consider “likes,” time spent watching a video, and other behaviors to tailor its recommendations.<sup>280</sup>

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<sup>274</sup> YouTube for Press, YouTube, <https://blog.youtube/press/> (last visited July 6, 2023).

<sup>275</sup> *Id.*

<sup>276</sup> Josh Lowensohn, *YouTube’s Big Redesign Goes Live to Everyone*, CNET (Mar. 31, 2010), <https://www.cnet.com/culture/youtubes-big-redesign-goes-live-to-everyone/>.

<sup>277</sup> Cristos Goodrow, *On YouTube’s Recommendation System*, YouTube (Sept. 15, 2021), <https://blog.youtube/inside-youtube/on-youtubes-recommendation-system/>.

<sup>278</sup> *Id.*

<sup>279</sup> *Id.*

<sup>280</sup> *Id.*

257. YouTube’s platform automatically plays those recommendations to those on the platform after they finish watching a video. This feature, known as “autoplay,” was implemented in 2015. YouTube turns the platform feature on by default, which means videos automatically and continuously play for those on the platform unless they turn it off.<sup>281</sup>

258. YouTube purports to turn off by default its autoplay feature for those aged 13-17.<sup>282</sup> But, as mentioned above, YouTube does not require logging in or even having an account to watch videos on the platform. For them, or anyone who does not self-report an age between 13 and 17, YouTube defaults to automatically playing the videos its algorithm recommends.

**a. YouTube Markets Its Platform to Children**

259. YouTube makes money mainly through advertising on the platform and made \$19 billion in ad revenue in 2021 alone.<sup>283</sup>

260. “In 2012, YouTube concluded that the more people watched, the more ads it could run[.]”<sup>284</sup> “So YouTube . . . set a company-wide objective to reach one billion hours of viewing a day[.]”<sup>285</sup>

261. “[T]he best way to keep eyes on the site,” YouTube realized, was “recommending videos, alongside a clip or after one was finished.”<sup>286</sup> That is what led to the development of its recommendation algorithm and autoplay feature described above.

262. YouTube has long known that children go on its platform in greater proportion than older demographics.

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<sup>281</sup> Autoplay videos, YouTube Help, <https://support.google.com/youtube/answer/6327615?hl=en#:~:text=For%20users%20aged%2013%2D17,turned%20off%20Autoplay%20for%20you> (last visited July 6, 2023).

<sup>282</sup> *Id.*

<sup>283</sup> Alphabet Inc., Annual Report, Form 10-k at 60 (2021), <https://www.sec.gov/ix?doc=/Archives/edgar/data/1652044/000165204422000019/goog-20211231.htm>.

<sup>284</sup> Mark Bergen, *YouTube Executive Ignores Warnings, Letting Toxic Videos Run Rampant*, Bloomberg (Apr. 2, 2019), <https://www.bloomberg.com/news/features/2019-04-02/youtube-executives-ignored-warnings-letting-toxic-videos-run-rampant?leadSource=uverify%20wall>.

<sup>285</sup> *Id.*

<sup>286</sup> *Id.*

263. Yet YouTube has not implemented even rudimentary protocols to verify the age of those on the platform; anyone can watch a video on YouTube without registering an account or reporting their age.

264. Instead, YouTube leveraged its popularity among children to increase its revenue from advertisements by marketing its platform to popular brands of children's products. For example, Google pitched Mattel, the maker of Barbie and other popular kids' toys, by telling its executives that "YouTube is today's leader in reaching children age 6-11 against top TV channels."<sup>287</sup> When presenting to Hasbro, the maker of Play-Doh, My Little Pony, and other kids' toys, Google touted that "YouTube was unanimously voted as the favorite website for kids 2-12," and that "93% of tweens visit YouTube to watch videos."<sup>288</sup> In a different presentation to Hasbro, YouTube was referred to as "[t]he new 'Saturday Morning Cartoons,'" and claimed that YouTube was the "#1 website regularly visited by kids" and "the #1 source where children discover new toys + games."<sup>289</sup>

265. YouTube developed and marketed a version of the YouTube platform specifically for children under the age of 13.

266. YouTube's efforts to attract children have been successful; 95 percent of children ages 13-17 have been on YouTube.<sup>290</sup>

**b. YouTube Intentionally Maximizes the Time Children Spend on Its Platform.**

267. Google designed YouTube to maximize children's accessing of and addiction to their platform, mostly through focusing on how long they spent watching videos. To that end, Google

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<sup>287</sup> Complaint for Permanent Injunction, Civil Penalties, and Other Equitable Relief, Ex. A, *FTC v. Google LLC et al.*, No. 1-19-cv-02642-BAH (D.D.C. Sept. 4, 2019) (ECF Dkt. No. 1-1).

<sup>288</sup> *Id.* Ex. B.

<sup>289</sup> *Id.* Ex. C.

<sup>290</sup> *Id.*

employs design features and complex content-agnostic algorithms to create a never-ending stream of videos intended to grip and hold the attention of those on the platform.

268. Like other Defendants' social media platforms, Google developed features that exploit psychological phenomena such as IVR to maximize the time spent on YouTube.

269. YouTube uses design features that operate on principles of IVR to drive both YouTube content creators and YouTube viewers into habitual, excessive, time on the platform. Google designed YouTube to allow those on the platform to like, comment, and share videos and to subscribe to content creator's channels. These features serve as rewards for those who create and upload videos to YouTube. As described above, receiving a like indicates others' approval and activates the brain's reward region.<sup>291</sup> The use of likes, therefore, encourages going onto YouTube over and over, seeking future pleasurable experiences.

270. YouTube also uses IVR to encourage viewing others' content. One of the ways Google employs IVR in YouTube's platform design is through subscriber push notifications and emails, which are designed to prompt watching YouTube content and encourage excessive time on the platform. When subscribing to another's channel, they receive notifications every time that channel uploads new content, prompting them go on YouTube and watch the video.<sup>292</sup>

271. One of YouTube's defining features is its panel of recommended videos. YouTube recommends videos on both the YouTube home page and on every individual video page in an "Up Next" panel.<sup>293</sup> This list automatically populates next to the video then being watched. This recommended video list is a never-ending feed of videos intended to result in staying on the platform watching videos without having to click or search for other videos. This constant video

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<sup>291</sup> See, e.g., Sherman *et al.*, *supra* note 206.

<sup>292</sup> *Manage YouTube Notifications*, YouTube, <https://support.google.com/youtube/answer/3382248?hl=en&co=GENIE.Platform%3DDesktop> (last visited July 6, 2023).

<sup>293</sup> *Recommended Videos*, YouTube, <https://www.youtube.com/howyoutubeworks/product-features/recommendations/#:~:text=You%20can%20find%20recommendations%20at,the%20%E2%80%9CUp%20Next%E2%80%9D%20panel.&text=Your%20homepage%20is%20what%20you,the%20latest%20news%20and%20information> (last visited July 6, 2023).

stream, comprised of videos recommended by YouTube’s algorithms, is the primary way Google increases the time spent on the YouTube platform.

**c. YouTube’s Algorithms are Manipulative and Designed to Addict Children to Its Platform.**

272. Google uses algorithms throughout YouTube to recommend videos to those on the platform. These algorithms select videos that populate the YouTube homepage, rank results in searches, and suggest videos for viewers to watch next. These algorithms are manipulative by design and increase the amount of time spent on YouTube.

273. Google began building the YouTube platform recommendation system in 2008.<sup>294</sup> When Google first developed its recommendation algorithms, the end goal was to maximize how much time was spent watching YouTube platform videos. A YouTube spokesperson admitted as much, saying YouTube’s recommendation system was initially set up to “optimize” the amount of time watching videos.<sup>295</sup>

274. Former YouTube engineer Guillaume Chaslot has also stated that, when he worked for YouTube designing its recommendation algorithm, the priority was to keep viewers on the platform for as long as possible to maximize “watch time.”<sup>296</sup> Chaslot further stated that “[i]ncreasing users’ watch time is good for YouTube’s business model” because the more people watch videos, the more ads they see, and YouTube’s advertising revenue increases.<sup>297</sup>

275. Early on, one of the primary metrics behind YouTube’s recommendation algorithm was clicks. As YouTube describes, “[c]licking on a video provides a strong indication that you will also find it satisfying.”<sup>298</sup> But, as YouTube learned, clicking on a video does not mean watching it. Thus, in 2012, YouTube also started tracking watch time—the amount of time spent watching

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<sup>294</sup> Goodrow, *supra* note 277.

<sup>295</sup> Ben Popken, *As Algorithms Take Over, YouTube’s Recommendations Highlight a Human Problem*, NBC (Apr. 19, 2018), <https://www.nbcnews.com/tech/social-media/algorithms-take-over-youtube-s-recommendations-highlight-human-problem-n867596>.

<sup>296</sup> William Turton, *How YouTube’s Algorithm Prioritizes Conspiracy Theories*, Vice (Mar. 5, 2018), <https://www.vice.com/en/article/d3w9ja/how-youtubes-algorithm-prioritizes-conspiracy-theories>.

<sup>297</sup> Jesselyn Cook & Sebastian Murdock, *YouTube is a Pedophile’s Paradise*, Huffington Post (Mar. 20, 2020), [https://www.huffpost.com/entry/youtube-pedophile-paradise\\_n\\_5e5d79d1c5b6732f50e6b4db](https://www.huffpost.com/entry/youtube-pedophile-paradise_n_5e5d79d1c5b6732f50e6b4db).

<sup>298</sup> Goodrow, *supra* note 277.

a video on the platform.<sup>299</sup> YouTube made this switch to keep people watching for as long as possible.<sup>300</sup> In YouTube’s own words, this switch was successful. “These changes have so far proved very positive -- primarily less clicking, more watching. We saw the amount of time viewers spend watching videos across the site increase immediately[.]”<sup>301</sup> And in 2016, YouTube started measuring “valued watchtime” via surveys to ensure that viewers are satisfied with their time spent watching videos on YouTube.<sup>302</sup> YouTube made these changes to its algorithms to ensure that more time is spent watching videos and ads.

276. YouTube’s current recommendation algorithm is based on deep-learning neural networks that retune the platform’s recommendations based on the data fed into it.<sup>303</sup> While this algorithm is incredibly complex, its process can be broken down into two general steps. First, the algorithm compiles a shortlist of several hundred videos by finding videos matching the topic and other features of the video currently being watched on the platform.<sup>304</sup> Then the algorithm ranks the list according to identified preferences, which the algorithm learns by tracking a viewer’s clicks, likes, and other interactions.<sup>305</sup> In short, the algorithm tracks and measures a viewer’s previous viewing habits and then finds and recommends other videos the algorithm thinks will hold the attention of the person on the platform.

277. YouTube’s recommendation system “is constantly evolving, learning every day from over 80 billion pieces of information.”<sup>306</sup> Some of the information the recommendation

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<sup>299</sup> *Id.*

<sup>300</sup> Dave Davies, *How YouTube Became One of the Planet’s Most Influential Media Businesses*, Nat’l Pub. Radio (Sept. 8, 2022), <https://www.npr.org/2022/09/08/1121703368/how-youtube-became-one-of-the-planets-most-influential-media-businesses>.

<sup>301</sup> Eric Meyerson, *YouTube Now: Why We Focus on Watch Time*, YouTube (Aug. 10, 2012), <https://blog.youtube/news-and-events/youtube-now-why-we-focus-on-watch-time/>.

<sup>302</sup> Goodrow, *supra* note 277.

<sup>303</sup> Alexis C. Madrigal, *How YouTube’s Algorithm Really Works*, Atl. (Nov. 8, 2018), <https://www.theatlantic.com/technology/archive/2018/11/how-youtubes-algorithm-really-works/575212/>; Paul Covington *et al.*, *Deep Neural Networks for YouTube Recommendations*, Google (2016), <https://storage.googleapis.com/pub-tools-public-publication-data/pdf/45530.pdf>.

<sup>304</sup> Karen Hao, *YouTube is Experimenting with Ways to Make Its Algorithm Even More Addictive*, MIT Tech. Rev. (Sept. 27, 2019), <https://www.technologyreview.com/2019/09/27/132829/youtube-algorithm-gets-more-addictive/>; Covington *et al.*, *supra* note 303.

<sup>305</sup> Hao, *supra* note 304.

<sup>306</sup> Goodrow, *supra* note 277.

algorithm relies on to deliver recommended videos includes watch and search history, channel subscriptions, clicks, watch time, survey responses, shares, likes, dislikes, viewer's location (country) and the time of day.<sup>307</sup>

278. The recommendation algorithm can determine what “signals” or factors are more important to individual viewers.<sup>308</sup> For example, if viewers share every video they watch, including videos they give a low rating, the algorithm learns not to heavily factor the shares when recommending content.<sup>309</sup> Thus, the recommendation algorithm “develops dynamically” to individual viewing habits and makes highly specific recommendations to keep individuals watching videos.<sup>310</sup>

279. Along with the algorithm's self-learning, Google engineers constantly update YouTube's recommendation and ranking algorithms, making several updates every month, according to YouTube Chief Product Officer Neal Mohan.<sup>311</sup> The end goal is to increase how long viewers spend watching content on the YouTube platform.

280. Because Google has designed and refined its algorithms to be manipulative, these algorithms are highly successful at getting those on the platform to view content based on the algorithm's recommendation. In 2018, Mohan stated that AI-driven recommendations are responsible for 70 percent of the time spent on YouTube.<sup>312</sup> In other words, 70 percent of all YouTube content watched was recommended by YouTube's algorithms rather than those on the platform purposely searching for and identifying the content they watch.

281. Mohan also stated that recommendations keep those on the platform using mobile devices watching YouTube for more than 60 minutes at a time on average.<sup>313</sup>

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<sup>307</sup> *Recommended Videos*, YouTube, <https://www.youtube.com/howyoutubeworks/product-features/recommendations/#signals-used-to-recommend-content> (last visited July 6, 2023).

<sup>308</sup> *Id.*

<sup>309</sup> *Id.*

<sup>310</sup> *Id.*

<sup>311</sup> Nilay Patel, *YouTube Chief Product Officer Neal Mohan on The Algorithm, Monetization, and the Future for Creators*, Verge (Aug. 3, 2021), <https://www.theverge.com/22606296/youtube-shorts-fund-neal-mohan-decoder-interview>.

<sup>312</sup> Joan E. Solsman, *YouTube's AI is the Puppet Master Over Most of What You Watch*, CNET (Jan. 20, 2018), <https://www.cnet.com/tech/services-and-software/youtube-cs-2018-neal-mohan/>.

<sup>313</sup> *Id.*

282. Given that people watch more than one billion hours of YouTube videos daily,<sup>314</sup> YouTube’s recommendation algorithms are responsible for hundreds of millions of hours spent watching videos on the YouTube platform.

**d. YouTube’s Conduct in Designing, Building, and Operating Its Platform Has Harmed Children’s Mental Health**

283. By designing YouTube’s algorithms to prioritize and maximize the length of time spent watching videos, Google has harmed children’s mental health. In particular, YouTube has done so by recommending content to children through its algorithms.

284. YouTube’s algorithms push children on the platform down rabbit holes where they are likely to encounter content that is violent, sexual, or encourages self-harm, among other types of harmful content.

285. Research by the Tech Transparency Project (“TTP”) shows that YouTube Kids fed children content that involved drug culture, guns, and beauty and diet tips that could lead to harmful body image issues.<sup>315</sup> Among the videos TTP found were step-by-step instructions on how to conceal a gun, guides on how to bleach one’s face at home, and workout videos emphasizing the importance of burning calories and telling kids to “[w]iggle your jiggle.”<sup>316</sup> This research shows that YouTube Kids not only lets inappropriate content through its algorithmic filters, but actively directed the content to children through its platform’s recommendation engine.

286. Similar examples abound. Amanda Kloer, a campaign director with the child safety group ParentsTogether, spent an hour on her child’s YouTube Kids profile and found videos “encouraging kids how to make their shirts sexier, a video in which a little boy pranks a girl over her weight, and a video in which an animated dog pulls objects out of an unconscious animated

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<sup>314</sup> Shira Ovide, *The YouTube Rabbit Hole is Nuanced*, N.Y. Times (Apr. 21, 2022), <https://www.nytimes.com/2022/04/21/technology/youtube-rabbit-hole.html>.

<sup>315</sup> Alex Hern, *YouTube Kids Shows Videos Promoting Drug Culture and Firearms to Toddlers*, Guardian (May 5, 2022), <https://www.theguardian.com/technology/2022/may/05/youtube-kids-shows-videos-promoting-drug-culture-firearms-toddlers>.

<sup>316</sup> *Guns, Drugs, and Skin Bleaching: YouTube Kids Poses Risks to Children*, Tech Transparency Project (May 5, 2022), <https://www.techtransparencyproject.org/articles/guns-drugs-and-skin-bleaching-youtube-kids-still-poses-risks-children>.



hippo's butt.”<sup>317</sup> Another parent recounted that YouTube Kids' autoplay function led her 6-year-old daughter to an animated video that encouraged suicide.<sup>318</sup>

287. Other children on the platform are fed content by YouTube's algorithms that encourage self-harm. As reported by PBS Newshour, a middle-schooler named Olivia compulsively watched YouTube videos every day after she came home from school.<sup>319</sup> Over time, she became depressed and started searching for videos on how to commit suicide. Similar videos then gave her the idea of overdosing. Weeks later she was in the hospital after “downing a bottle of Tylenol.”<sup>320</sup> Ultimately, she was admitted into rehab for digital addiction because of her compulsive YouTube watching.<sup>321</sup>

288. According to the Pew Research Center, 46 percent of parents say their child has encountered inappropriate videos on YouTube.<sup>322</sup> And children are not encountering these videos on their own volition. Instead, they are being fed harmful and inappropriate videos through the YouTube platform's AI-driven algorithms.<sup>323</sup>

289. Other reports have also found that YouTube's recommendation algorithm suggests a wide array of harmful content, including videos that feature misinformation, violence, and hate speech, along with other content that violates YouTube's stated policies.<sup>324</sup> A 2021 crowdsourced investigation from the Mozilla Foundation involving 37,000 YouTube viewers revealed that 71 percent of all reported negative viewer experiences came from videos recommended by YouTube.<sup>325</sup> And viewers on the platform were 40 percent more likely to have a negative

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<sup>317</sup> Rebecca Heilweil, *YouTube's Kids App Has a Rabbit Hole Problem*, Vox (May 12, 2021), <https://www.vox.com/recode/22412232/youtube-kids-autoplay>.

<sup>318</sup> *Id.*

<sup>319</sup> Lesley McClurg, *After Compulsively Watching YouTube, Teenage Girl Lands in Rehab for 'Digital Addiction'*, PBS (May 16, 2017), <https://www.pbs.org/newshour/health/compulsively-watching-youtube-teenage-girl-lands-rehab-digital-addiction>.

<sup>320</sup> *Id.*

<sup>321</sup> *Id.*

<sup>322</sup> Auxier *et al.*, *supra* note 111.

<sup>323</sup> Solsman, *supra* note 312.

<sup>324</sup> Brandy Zadrozny, *YouTube's Recommendations Still Push Harmful Videos, Crowdsourced Study Finds*, NBC News (July 17, 2021), <https://www.nbcnews.com/tech/tech-news/youtubes-recommendations-still-push-harmful-videos-crowdsourced-study-rcna1355>.

<sup>325</sup> *Id.*

experience with a video recommended by YouTube’s algorithm than with a video they searched for.<sup>326</sup>

290. The inappropriate and disturbing content YouTube’s algorithms expose children to hurt mental health. Mental health experts have warned that YouTube is a growing source of anxiety and inappropriate sexual behavior among children under the age of 13.<sup>327</sup>

291. In addition, children’s brain development is harmed by content spoon-fed to them by YouTube’s platform algorithms. “Children who repeatedly experience stressful and/or fearful emotions may under develop parts of their brain’s prefrontal cortex and frontal lobe, the parts of the brain responsible for executive functions, like making conscious choices and planning ahead,” according to “Donna Volpitta, Ed.D., founder of The Center for Resilient Leadership.”<sup>328</sup>

292. Even though much of the content YouTube’s algorithms feed to children is harmful, it triggers chemical reactions that encourage them to spend more time watching videos on YouTube. According to Dr. Volpitta, watching “fear-inducing videos cause the brain to receive a small amount of dopamine,” which acts as a reward and creates a desire to do something over and over.<sup>329</sup> This dopaminergic response is on top of the reward stimulus YouTube provides viewers through IVR.

293. Mental health professionals across the country have seen an increase in children experiencing mental health issues because of YouTube. Natasha Daniels, a child psychotherapist in Arizona, has said she has seen a rise in cases of children suffering from anxiety because of videos they watched on the YouTube platform.<sup>330</sup> Because of their anxiety, these children “exhibit loss of appetite, sleeplessness, crying fits, and fear.”<sup>331</sup>

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<sup>326</sup> *Id.*

<sup>327</sup> Josephine Bila, *YouTube’s dark side could be affecting your child’s mental health*, CNBC (Feb. 13, 2018), <https://www.cnbc.com/2018/02/13/youtube-is-causing-stress-and-sexualization-in-young-children.html>.

<sup>328</sup> *Id.*

<sup>329</sup> *Id.*

<sup>330</sup> *Id.*

<sup>331</sup> *Id.*

294. On top of causing anxiety, watching videos on the YouTube platform is also linked to insufficient sleep.<sup>332</sup> In one study on the effect of the platform's use and sleep, YouTube was consistently linked to negative sleep outcomes.<sup>333</sup> For every 15 minutes teens spent watching YouTube, they had a 24 percent greater chance of getting fewer than seven hours of sleep.<sup>334</sup> YouTube is particularly problematic on this front because of YouTube's recommendation and autoplay feature make it "so easy to finish one video" and watch the next, said Dr. Alon Avidan, director of the UCLA Sleep Disorders Center.<sup>335</sup> In turn, insufficient sleep is linked to poor health outcomes.<sup>336</sup> Thus, YouTube exacerbates an array of children's mental health issues by contributing to sleep deprivation.

295. Despite the vast evidence that YouTube's design and algorithms harm millions of children, Google continues to manipulate them into staying on the platform and watching more and more videos to increase its ad revenue.

#### **E. The Effect of Social Media Platforms on Schools**

296. School districts are uniquely harmed by the current mental health crisis afflicting children. This is because schools are one of the main providers of mental health services for school-aged children.<sup>337</sup> Indeed, over 3.1 million children ages 12-17 received mental health services through an education setting in 2020, more than any other non-specialty mental health service setting.<sup>338</sup>

297. Most schools offer mental health services to students. For example, in the 2021-22 school year, 96 percent of public schools surveyed as part of the U.S. Department of Education's

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<sup>332</sup> Meg Pillion *et al.*, *What's 'App'-ning to Adolescent Sleep? Links between Device, App Use, and Sleep Outcomes*, 100 *Sleep Med.* 174 (Dec. 2022),

<https://www.sciencedirect.com/science/article/abs/pii/S1389945722010991?via%3Dihub>.

<sup>333</sup> *Id.*

<sup>334</sup> *Id.*

<sup>335</sup> Cara Murez, *One App is Especially Bad for Teens' Sleep*, U.S. News (Sept. 13, 2022), <https://www.usnews.com/news/health-news/articles/2022-09-13/one-app-is-especially-bad-for-teens-sleep>.

<sup>336</sup> Levenson *et al.*, *supra* note 46.

<sup>337</sup> *National Survey on Drug Use and Health*, SAMHSA (2019 & 1st & 4th Qs. 2020), <https://www.samhsa.gov/data/report/2020-nsduh-detailed-tables>.

<sup>338</sup> *Id.*

(DOE) School Pulse Panel study reported offering at least one type of mental health service to their students.<sup>339</sup> The researchers surveyed a national sample of about 2,400 public elementary, middle, high, and combined-grade schools to reach their results.<sup>340</sup> School principals were designated as the study's point of contact, but principals were allowed to delegate completion of the survey to another staff member who was knowledgeable about student enrollment and other programs at the school.<sup>341</sup> In the survey, 88 percent of public schools did not strongly agree that they could effectively provide mental health services to all students in need.<sup>342</sup> School officials identified that the most common barriers to providing effective mental health services are (1) not enough mental health professionals; (2) inadequate access to licensed mental health professionals; and (3) inadequate funding.<sup>343</sup> Student opinions also reflect that schools cannot provide adequate mental health services. Less than a quarter of students in grades 6-12 report accessing counseling or psychological services when they are upset, stressed, or having a problem.<sup>344</sup> And of the students who access mental health services, only 41 percent of middle schoolers and 36 percent of high schoolers are satisfied with the services they receive.<sup>345</sup>

298. In addition to their existing efforts to meet the mental health services needs of children, schools are further struggling to provide mental health services because of an increase in students seeking these services, as more than two-thirds of public schools reported an increase in the percentage of students seeking mental health services from school since the start of the pandemic.<sup>346</sup>

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<sup>339</sup> Press Release, Nat'l Ctr. for Educ. Stat., Roughly Half of Public Schools Report That They Can Effectively Provide Mental Health Services to All Students In Need, (May 31, 2022), [https://nces.ed.gov/whatsnew/press\\_releases/05\\_31\\_2022\\_2.asp](https://nces.ed.gov/whatsnew/press_releases/05_31_2022_2.asp).

<sup>340</sup> 2022 School Pulse Panel, U.S. Dep't Educ., Inst. Educ. Sci. (2022), <https://ies.ed.gov/schoolsurvey/spp/>.

<sup>341</sup> <https://omb.report/icr/202112-1850-004/doc/119117700.pdf>.

<sup>342</sup> *Id.*

<sup>343</sup> *Id.*

<sup>344</sup> *Insights From the Student Experience, Part I: Emotional and Mental Health* at 2, YouthTruth (2022), [https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth\\_EMH\\_102622.pdf](https://youthtruthsurvey.org/wp-content/uploads/2022/10/YouthTruth_EMH_102622.pdf).

<sup>345</sup> *Id.*

<sup>346</sup> Nat'l Ctr. for Educ. Stat., *supra* note 339.

299. During this same period, adolescents increased their time on Defendants’ social media platforms, also raising levels of excessive and problematic use of digital media on the platforms.<sup>347</sup> And these higher rates of presence on the social media platforms relate to higher “ill-being.”<sup>348</sup> Thus, the increase in adolescent social media platform exposure during the pandemic is linked to an increase in adolescents experiencing mental health problems.

300. That relationship is reflected in reports from public schools. Over 75 percent of public schools that participated in DOE’s School Pulse Panel study reported an increase in staff expressing concerns about student depression, anxiety, and other disturbances since the start of the pandemic.<sup>349</sup> Students receiving mental health services in educational settings predominantly do so because they “[f]elt depressed,” “[t]hought about killing [themselves] or tried to” or “[f]elt very afraid and tense.”<sup>350</sup>

301. Anxiety disorders are also up, affecting 31.9 percent of adolescents between 13 and 18 years old.<sup>351</sup> “Research shows that untreated teenagers with anxiety disorders are at higher risk to perform poorly in school, miss out on important social experiences, and engage in substance abuse.”<sup>352</sup>

302. In addition, students’ time spent on Defendants’ social media platforms affects Florida’s school boards’ ability to fulfill their mission of delivering an adequate education and preparing students for success in college and the global workforce. Students in grades 6–12

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<sup>347</sup> Laura Marciano *et al.*, *Digital Media Use and Adolescents’ Mental Health During the Covid-19 Pandemic: A Systematic Review and Meta-Analysis*, Frontiers Pub. Health (Feb. 2022), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8848548/>.

<sup>348</sup> *Id.*

<sup>349</sup> Nat’l Ctr. for Educ. Stat., *supra* note 339.

<sup>350</sup> Rachel N. Lipari *et al.*, *Adolescent Mental Health Service Use and Reasons for Using Services in Specialty, Educational, and General Medical Settings*, SAMHSA (May 5, 2016), [https://www.samhsa.gov/data/sites/default/files/report\\_1973/ShortReport-1973.html#:~:text=The percent20Substance percent20Abuse percent20and percent20Mental.273 percent20TALK percent20\(8255\)](https://www.samhsa.gov/data/sites/default/files/report_1973/ShortReport-1973.html#:~:text=The percent20Substance percent20Abuse percent20and percent20Mental.273 percent20TALK percent20(8255).).

<sup>351</sup> *Anxiety Disorders: Facts and Statistics*, Anxiety & Depression Ass’n Am., <https://adaa.org/understanding-anxiety/facts-statistics> (last visited July 6, 2023).

<sup>352</sup> *Id.*

identify depression, stress, and anxiety as the most prevalent obstacles to learning.<sup>353</sup> Most middle and high school students also fail to get enough sleep on school nights, contributing to poor academic performance.<sup>354</sup> These negative mental health outcomes are also the most common symptoms of the students' described excessive time spent on Defendants' social media platforms.

303. The mental health crisis afflicting children has also caused many other behavioral issues among students that interfere with schools' ability to teach. In 2022, 61 percent of public schools saw an increase in classroom disruptions caused by student misconduct compared to school years before the pandemic.<sup>355</sup> Fifty-eight percent of public schools also saw an increase in rowdiness outside the classroom, 68 percent saw increases in tardiness, 27 percent saw increases in students skipping classes, 55 percent saw increases in the use of electronic devices when not permitted, 37 percent saw an increase in bullying, 39 percent saw an increase in physical fights between students, and 46 percent saw an increase in threats of fights between students.<sup>356</sup>

304. Through viral online "challenges" (e.g., TikTok challenges) and social media-driven and recorded fights, Defendants' platforms also bear responsibility, at least in part, for increases in vandalism, with 36 percent of public schools reporting increased acts of student vandalism on school property in 2022.<sup>357</sup>

305. Students' social media platform exposure causes schools to devote more time and resources to address the increase in mental health issues, disruptive behavior, and lack of attention and focus of their students.

## **F. Impact of Social Media Platforms on Plaintiff**

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<sup>353</sup> *Insights From the Student Experience, Part I: Emotional and Mental Health*, YouthTruth, at 2–3 (2022), <https://youthtruthsurvey.org/emh/>.

<sup>354</sup> Anne G. Wheaton *et al.*, *Short Sleep Duration Among Middle School and High School Students-United States, 2015*, 67(3) Morbidity & Mortality Wkly. Rpt. 85–90 (Jan. 26, 2018), <http://dx.doi.org/10.15585/mmwr.mm6703a1>.

<sup>355</sup> *2022 School Pulse Panel*, U.S. Dep't Educ., Inst. Educ. Sci. (2022), <https://ies.ed.gov/schoolsurvey/spp/>.

<sup>356</sup> *Id.*

<sup>357</sup> *Id.*

306. Plaintiff, Duval County School District, serves about 130,278 students.

307. Plaintiff has been directly impacted by the described mental health crisis among its students.

308. There has been a surge in the proportion of children in Florida who say they cannot control or manage their anxiety, who feel such low self-worth and hopelessness that they decrease or stop doing the activities that they used to love, who are considering suicide, who made plans to commit suicide, and who have attempted to commit suicide. According to America's Health Rankings and 2021 Youth Risk Behavior Survey, 22% of high school students surveyed considered attempting suicide and America's Health Rankings shows Florida ranks 8<sup>th</sup> in the nation with the most teen suicides between the ages of 15 and 19.<sup>358</sup>

309. The pandemic and corresponding increase in time students spend on Defendants' social media platforms have intensified the mental health crisis.

310. That crisis has led, in part, to a spike in the number of Plaintiff's students acting out and in need of mental health services.

311. In an attempt to address the decline in students' mental, emotional, and social health, school districts, including Plaintiff, have been forced to divert resources and expend additional resources to students in need of services:

- a. Hiring additional personnel, including counselors, social workers, school psychologists, and other mental health professionals to address mental, emotional, behavioral, and social health issues;
- b. Developing additional resources and related services and special education supports to address mental, emotional, and social health issues;

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<sup>358</sup> America's Health Rankings 2021.

- c. Increasing training for teachers and other staff to identify students exhibiting symptoms affecting their mental, emotional, and social health;
- d. Increasing training and resources for teachers and other staff to help students address their mental health issues;
- e. Addressing and repairing property damaged as a result of students acting out because of mental, social, emotional, or behavioral issues (*e.g.*, “TikTok challenges”);
- f. Training teachers, staff, and members of the community about the harms caused by Defendants’ platforms;
- g. Developing lesson plans to teach students about the dangers of being on Defendants’ platforms;
- h. Informing students and their families about the dangers of being on Defendants’ platforms;
- i. Updating its student code of conduct and school handbooks to address the effects of students’ being on Defendants’ platforms;
- j. Discussing among teachers, other staff, school board members, school officials, and other professionals how to address the rise in mental health issues among students and the effect of social media platforms on Florida school boards], including by considering updating school rules and school system policies to address use of Defendants’ platforms;
- k. Increasing time spent and resources implementing disciplinary responses and otherwise intervening to address and remedy the consequences of bullying, harassment, and threats;



- l. Addressing interruptions to learning and redirecting students who felt compelled to access Defendants' platforms while in class or on Plaintiff's school property;
- m. Discuss inappropriate accessing of social media platforms with students and the parents and guardians of students;
- n. Notifying and engaging in outreach with parents and guardians regarding students' behavioral and attendance issues stemming from Defendants' social media platforms;
- o. Investigating and responding to threats made against Plaintiff's schools and students over, or fueled by, students having been on Defendants' social media platforms; and
- p. Dedicating or purchasing and maintaining software and other IT resources (*e.g.*, GoGuardian) to filter and monitor students' accessing social media platforms.

312. Implementing these mitigating steps has also diverted Plaintiff's limited resources away from, and impeded the fulfillment of, its mission and purpose of providing its students with a sound basic education and is itself a harm that is directly and proximately caused by Defendants' social media platforms.

313. Plaintiff requires significantly greater and long-term funding to address the harms Defendants have created, and Defendants must account for their wrongs, as alleged herein, and must be enjoined from continuing to cause harm.

## **V. CAUSES OF ACTION**

### **COUNT ONE: PUBLIC NUISANCE**

314. Plaintiff incorporates each preceding paragraph as though fully set forth here.

315. Plaintiff brings this claim under Florida law regarding public nuisances.

316. Whether negligent, reckless, or intentional, or a combination thereof, Defendants' conduct in designing, building, marketing, distributing, and operating their social media platforms

and providing children access to them causes a significant and unreasonable interference with the public's right to public education.

317. Defendants have thus caused, are causing, and will continue to cause increased expenditures by Plaintiff. And because money damages will not, by themselves, adequately compensate Plaintiff for the harm suffered, which is not adequately remedied solely at law, injunctive relief is also proper. In the absence of an injunction, Plaintiff and its students will continue to suffer irreparable harm.

318. The health and safety of the students and employees of Duval County School District, including those who have accessed, are accessing and will access Defendants' platforms, as well as those affected by others' accessing their platforms, are matters of substantial interest and of legitimate concern to Plaintiff and the public it serves.

319. The impact on Plaintiff's ability to deliver a sound basic education to students in Plaintiff's school district is also a legitimate concern to Plaintiff and the public it serves.

320. Defendants have offended, interfered with and caused damage to children in Plaintiff's schools and have prevented them from being free from the impact of Defendants' social media platforms that endanger their health and safety.

321. Defendants have exacerbated the described mental health crisis by having purposefully designed, built, marketed, distributed, and operated their social media platforms to induce children to excessively access to them, remain on them for excessive amounts of time, and become addicted to them, and Defendants continue to do so.

322. Defendants have been and are offending children's morals, interfering with the use of the public schools and educational services in the charge of Plaintiff, and have been and are

endangering and injuring the health, safety, or comfort of Plaintiff's students and staff, and the public Plaintiff serves.

323. Defendants have harmfully affected and continue to affect a substantial number of students within Plaintiff's school district and are likely to continue causing significant harm.

324. Defendants have directly caused and continue to cause severe disruption of the students within Plaintiff's schools regarding their health, order, safety, welfare, and education services.

325. The damage to the rights, interests, and convenience of Plaintiff's school district in protecting its students far outweighs any claimed interests of Defendants, which have profited excessively from the effects, as alleged, of their social media platforms.

326. But for Defendants' conduct, Plaintiff's students would not have accessed Defendants' social media platforms as often and as excessively as alleged, would not be deluged with the platforms' harmful content and mode of operation, and would not have suffered harm as alleged.

327. Further, but for Defendants' conduct, Plaintiff would not have had to divert its limited time and resources budgeted to educate its students from their intended purpose to, instead, address the mental health, behavioral, emotional, and social issues caused and/or exacerbated by Defendants.

328. Logic, common sense, justice, policy, and precedent demonstrate that Defendants have caused and/or exacerbated the harms and damage alleged herein. Defendants knew or reasonably should have known that their design, building, marketing, distribution, providing access to, and operation of their platforms would cause students to access and remain on their platforms excessively, that their marketing and operating methods were designed to appeal to and

addict children, and that their active efforts to increase children's access to and remaining on their platforms were harming children and schools, including students of Plaintiff's school district, by overexposing and even addicting children to their social media platforms to maximize advertising revenue and gain profits for Defendants. Plaintiff has been and is now left trying to help students in need of services in their school system who suffer from depression, anxiety, engaged in self-harm, become suicidal, developed eating disorders and otherwise have been injured as a result of Defendants' conduct as alleged.

329. Thus, the public nuisance caused by Defendants was reasonably foreseeable to Defendants, including the financial and economic losses incurred by Plaintiff in addressing the effects of Defendants conduct as alleged.

330. Alternatively, Defendants' conduct was a substantial contributing factor in bringing about the public nuisance alleged even if a similar result might have occurred without it. By designing, building, marketing, distributing, and operating their platforms in a manner intended to maximize the time children spend exposed on their platforms—despite knowledge of the harms to them—Defendants directly facilitated children's widespread, excessive, and habitual access to, presence on, and remaining on their platforms and the public nuisance affecting Plaintiff. By seeking to capitalize on their success by refining their platforms to increase the time children spend on their platforms, Defendants directly contributed to the health crisis and the public nuisance affecting Plaintiff. Defendants' conduct is especially injurious to Plaintiff because Plaintiff has sustained and will continue to sustain substantial injuries that require the overstretching of Plaintiff's limited resources.

331. Plaintiff has had to mitigate the harm and disruption caused or exacerbated by Defendants as alleged.

332. Fully abating the nuisance and its effects will require much more than the steps already taken by Plaintiff.

333. Furthermore, the costs for implementing the necessary abatement and mitigation will divert Plaintiff's limited resources away from its mission and purpose of providing its students with a sound basic education and is in itself a harm that is directly and proximately caused by the Defendants.

334. Under Florida law, Plaintiff requests an order by the Court providing for abatement of the public nuisance Defendants have caused and/or contributed to causing and enjoining Defendants from continuing the conduct alleged herein.

335. Under Florida law, Plaintiff also seeks the maximum recovery permitted by law because of the public nuisance created by Defendants.

336. Under Florida law, Defendants are jointly and severally liable because they have acted intentionally, have acted in concert, and because Plaintiff is not at fault.

**COUNT TWO: PRODUCT DEFECT (STRICT LIABILITY)**

337. Plaintiff incorporates paragraphs 1 - 313 as though fully set forth here.

338. Defendants' social media platforms are products.

339. Defendants designed, built, marketed, sold, supplied, and distributed, their products for the personal use of the public, including children who were and are Plaintiff's students.

340. Defendants' products were and are sold, supplied, and distributed or otherwise made available to the public through retail channels (e.g., the Apple App "Store" and the Google Play "Store").

341. Defendants' products were defective in design in that, when used as intended, the products would and did cause children to use them more often and for longer periods of time than was safe inasmuch as, by design, the material the children were excessively exposed to was capable

of causing damage to their mental and physical health, and, moreover, such products were, by design, capable of addicting and did addict children to excessive exposure to the product.

342. The defects in the design of each of the Defendants' products existed before the release of these products to the public, including Plaintiff's students, and there was no substantial change to any of the Defendants' products, except by each respective Defendant, between the time of each Defendant's making the products available to the public through retail channels (e.g., the App Store or Google Play) and the time of the products' being accessed by Plaintiff's students.

343. Plaintiff's students used these products as intended and designed by each Defendant which knew that Plaintiff's students would use these products without inspection that would reveal the designed defects built into the products.

344. Defendants' products were defective in design in that they would and did exploit the chemical reward system of users' brains, especially those of children, to create addictive engagement, compulsive use, and additional mental and physical harms.

345. Each Defendant either failed to test the safety of the features designed into its product or, when tested, providing knowledge of the harm it was capable of causing, failed to remedy the defects users including Plaintiff's students.

346. Defendants' products failed to meet the safety expectations of ordinary consumers when used in an intended or reasonably foreseeable manner, and because the products are less safe than an ordinary consumer would expect. Children, including Plaintiff's students, are among the ordinary consumers of each of Defendants' products.

347. Neither children, including Plaintiff's students, nor their parents, expected Defendants' products to be psychologically and neurologically addictive when used in their intended manner by their intended user, nor did they expect algorithms and other features

embedded by each Defendant in the products to make them initially and progressively more able to maximize time spent using the product.

348. Defendants' products were also defectively designed to create an inherent risk of danger; specifically, a risk of abuse and addiction of children with compulsive use leading to the risk of cascading harms, including, but not limited to, dissociative behavior, withdrawal symptoms, social isolation, damage to body image and self-worth, increased risky behavior, exposure to predators, sexual exploitation, and profound mental health issues for child consumers, including but not limited to depression, body dysmorphia, anxiety, suicidal ideation, self-harm, insomnia, eating disorders, death, and other harmful effects.

349. The risks inherent in the design of each of the Defendants' products significantly outweigh any claimed benefit of such design.

350. Each of the Defendants could have utilized cost-effective, reasonably feasible alternative designs, including algorithmic changes and changes to the addictive features described above, to minimize the harms described herein, and including, but not limited to:

- a. Robust age verification;
- b. Effective parental controls;
- c. Effective parental notifications;
- d. Warning of health effects of use and extended use upon sign-up and while in the application;
- e. Default protective limits to the length and frequency of sessions;
- f. Opt-in restrictions to the length and frequency of sessions;
- g. Self-limiting tools and parental settings, including, but not limited to, session time notifications, warnings, or reports;

- h. Blocks to use during certain times of day (such as during school hours or late at night);
- i. Beginning and end to a user's "Feed;"
- j. Redesigning algorithms to protect against rather than promote addictive engagement, such as the removal of a delay in loading, or eliminating the promotion of negative content;
- k. Implementing labels on images and videos that have been edited through product features such as "filters;"
- l. Limits on the strategic timing and clustering of notifications that lure users back;
- m. Removing barriers to the deactivation and deletion of accounts;
- n. Designing products that omit the defective features identified in this Complaint while still fulfilling the social networking purpose of providing a social media space;
- o. Implementing freely available and industry-proven child protection API tools such as Project Arachnid Shield to help limit and prevent child sexual exploitation, sextortion, and distribution of known CSAM through their products;
- p. Implementing reporting protocols to facilitate reporting of CSAM and adult predator accounts, specifically without the need to create or log in to the products prior to reporting;
- q. Implementing the legal definition of CSAM under 18 U.S.C. § 2256(8) and related case law when scanning for CSAM using tools such as PhotoDNA and CSAI to prevent underreporting of known CSAM;



- r. Prioritizing “tolerance” rather than “efficiency” and “distinctness” of the detection model when using scanning tools such as PhotoDNA and CSAI to prevent underreporting of known CSAM;
- s. Implementing effective scanning and hashing and/or secure enclaves in the direct messaging features of Meta’s, Snap’s, and ByteDance’s products, to prevent underreporting of known CSAM, and implementing proactive detection measures to scan for known CSAM within Defendants’ products and to remove it;
- t. Limiting or eliminating the use of geolocating for children;
- u. Eliminating product features that recommend child accounts to adult strangers; and
- v. Others as set forth herein.

351. Thus, alternative designs were available that would reduce children’s addictive and compulsive engagement with each Defendants’ products and would have effectively served the stated social purpose of Defendants’ products while reducing the gravity and severity of danger posed by those products’ defects.

352. As Plaintiff’s students used Defendants’ respective products as intended or in reasonably foreseeable ways, the physical, emotional, and economic injuries of Plaintiff’s students and to Plaintiff were reasonably foreseeable to each of the Defendants at the time of their products’ development, design, building, advertising, marketing, distribution and Defendants’ providing access to their platforms.

353. Plaintiff was injured as a direct and proximate result of each of the Defendants’ respective defective designs as described herein, as the defective design of the products used by Plaintiff’s students was a substantial factor in causing harm to Plaintiff.

354. As a direct and proximate result of Defendants' respective products' defective design, Plaintiff's students suffered serious and dangerous injuries, and Plaintiff was required to and did provide costly services to address those injuries and will be required to do so in the future.

355. The injuries to Plaintiff and its students cannot be wholly remedied by monetary relief and such remedies at law are inadequate.

356. Each Defendant, as described above, intentionally, recklessly, or with gross negligence designed the products, as alleged, with conscious indifference to the consequences of its conduct, including damage to the health, safety and welfare of children using the products; this warrants exemplary punitive damages in an amount sufficient to punish, without bankrupting, each Defendant and to deter others from like conduct.

**COUNT THREE: FAILURE TO WARN AND INSTRUCT (STRICT LIABILITY)**

357. Plaintiff incorporates paragraphs 1 - 313, 338 – 349, and 356 as though fully set forth here.

358. Defendant's products were and remain defective and unreasonably dangerous because, among other reasons described herein, the products failed to warn and instruct users, including Plaintiff's students, that, among other things:

- a. Defendants' products can cause addiction to their social media platforms, compulsive use, and/or other concomitant physical and mental injuries;
- b. Defendants' products harvest and utilize user data in a way that increases a user's risk of addiction to these products and concomitant physical and mental injuries;
- c. Defendants' products promote content to encourage compulsive engagement by the user, raising the risk of mental health harms, including, but not limited, to addiction, depression, self-harm, and eating disorders;

- d. Defendants' products include appearance-altering "filters" known to promote negative social comparison, body dysmorphia, and related injuries among children by promoting artificial and unrealistic beauty standards;
- e. New users of Defendants' products can identify themselves as minors, begin to use the product, and do so indefinitely, without any time or usage limitations, without ever receiving a safety warning, and without ever having to provide information so that each Defendant can warn the users' parents or guardians;
- f. The likelihood and severity of harms is greater for children;
- g. The harmfulness of the interaction of the product's features, and algorithms is hidden from the users and the government;
- h. Sexual predators use Defendants' products to produce and distribute CSAM;
- i. Adult predators target children for sexual exploitation, sextortion, and CSAM on Defendants' products;
- j. Use of Defendants' products risks children being targeted and sexually exploited by adult predators;
- k. Use of Defendants' products can increase risky and uninhibited behavior in children, making them easier targets for adult predators for sexual exploitation, sextortion, and CSAM; and
- l. The design of Direct Messaging on the Meta, ByteDance, and Snap products prevents the reporting of CSAM.

359. Children did not recognize the risks of Defendants' products.

360. The law presumes that had children and their parents received adequate warnings and instructions as to the risks of using Defendants' respective products and how to avoid them, they would have heeded them.

361. Defendants' products' failure to adequately warn students and their parents of the risks of using the products and the failure to provide them with adequate instructions for the safe use of Defendant's products was each a proximate cause of and a substantial factor in the injuries to Plaintiff's students and the consequent harms to Plaintiff as alleged.

**COUNT FOUR: NEGLIGENCE INCLUDING ATTRACTIVE NUISANCE CONCEPTS**

362. Plaintiff incorporates paragraphs 1 - 313 as though fully set forth here.

363. Defendants had a duty to exercise reasonable care in the design, research, development, building, marketing, operation of, and providing access to, their social media platforms, including the duty to avoid exposing children, including Plaintiff's students, to the risk of harm when present on Defendants' social media platforms.

364. Defendants had a duty, which was continuous, to exercise reasonable care (1) to provide adequate warnings and instructions about the risk of harm to children inherent in their accessing and spending time on Defendants' platforms, (2) to provide adequate warnings and instructions about the adverse effects of remaining on the platforms for extended amounts of time, (3) to provide adequate warnings that, using algorithms, the platforms expose children to material not for the child's benefit but only for the benefit of the Defendant's advertising revenue by keeping the child on the platform for excessive amounts of time, and (4) to provide adequate warnings that a child can become addicted to the platforms and what they expose children to. Such warnings and instructions, in compliance with Defendants' duty, should have been given not only to children, including Plaintiff's students, but to their parents.

365. Defendants knew, or in the exercise of reasonable care should have known, of the hazards posed by their platforms and, specifically, the mental and physical health hazards their platforms posed to children, including Plaintiff's students.

366. Accordingly, Defendants knew, or in the exercise of reasonable care, should have known that children's presence on Defendants' social media platforms, and their excessive presence there, would harm children, including Plaintiff's students and cause Plaintiff's damages as alleged.

367. Defendants, by actions and inactions, representations, and omissions, breached their duties as alleged in that Defendants designed, researched, developed, tested, built, marketed, promoted, operated, and provided access to platforms that Defendants knew, or had reason to know, would harm the mental and physical health of children, and that those with responsibilities to children, including Plaintiff, would also incur damages in providing services to those children in need of services as alleged.

368. Despite their vast wealth and consequent ability and means to investigate, study, and test the actual operation and impact of their platforms on children, Defendants failed to implement measures as a reasonably careful person would do under the circumstances to prevent foreseeable and likely harms to children, including Plaintiff's students, and Plaintiff.

369. Thus, Defendants' negligent breach of duty includes:

- a. Designing, researching, developing, marketing, operating, and providing access to their platforms without reasonable care;
- b. Failing to sufficiently study and conduct necessary research to determine whether their platforms were safe for children;

- c. Failing in the design, building, development, research, marketing, operation, and providing access to their platforms to avoid hazards created by encouraging children to stay on the platforms for excessive amounts of time;
- d. Designing their platforms to maximize how long children spend on their social media platforms and causing excessive use of their platforms, particularly among children, through the use of algorithm-based feeds, social reciprocity, and IVR;
- e. Failing to implement adequate safeguards in the design, building, and operation of their platforms to ensure they would not encourage excessive and problematic use of the platforms by children;
- f. Designing, building, providing access to, and operating their platforms to appeal to children who lack the same cognitive development as adults and are particularly vulnerable to social rewards like IVR and social reciprocity;
- g. Failing to take reasonable steps to prevent children from accessing their platforms which Defendants knew were dangerous to children;
- h. Failing to take reasonable steps to prevent children from remaining for extended periods of time on, and being exposed excessively to material on, their platforms which Defendants knew were dangerous to children;
- i. Failing to provide adequate warnings and instructions with respect to children Defendants could reasonably foresee would be at risk for harm as a result of being on their platforms, and failed to provide adequate warnings to the parents of such children;
- j. Failing to disclose to children and their parents the negative mental health consequences of children's being on and remaining on their platforms for excessive amounts of time;

- k. Failing to warn children and their parents that Defendants' platforms are designed, built, and operated to maximize the time users, particularly children, spend on Defendants' platforms and cause or exacerbate harms to mental health;
- l. Representing to children and parents that Defendants' platforms were safe for children when, in fact, Defendants knew or should have known that the platforms presented serious risks of harm for children;
- m. Failing to alert children and their parents of the true risks of children accessing and remaining on Defendants' platforms;
- n. Marketing, promoting, and recommending children's accessing and being on Defendants' platforms for extended periods of time while concealing and failing to disclose or warn of the dangers to children known by Defendants to be caused or exacerbated by children's accessing and being on Defendants' platforms for extended periods of time;
- o. Continuing to design, build, promote, operate, platforms that are unreasonably unsafe, addictive, and dangerous to children's mental health;
- p. Failing to modify Defendants' algorithms to refrain from acting to maximize the amount of time spent by children on the platforms at the risk of harm to the safety of children on the platforms;
- q. Committing other failures, acts, and omissions set forth herein:
- r. Addicting children to their platforms thereby causing depression, anxiety, self-harm, suicidal tendencies, eating disorders and disruptive behavior among its students.
- s. Failing to design and operate the platforms to make them safe for the presence of children on them as outlined in previous paragraphs.

- t. Failing to warn and to instruct regarding the hazards of being on the platforms as outlined in previous paragraphs.

370. It was foreseeable to Defendants that Plaintiff would suffer injuries because of Defendants' conduct as alleged.

371. Defendants' negligence contributed to causing and did cause, the damages that Plaintiff suffered with regard to Plaintiff's students in need of services and will continue to suffer such damages that would not have been incurred without Defendants' negligence as alleged.

372. Defendants' conduct served Defendants' own interests, despite Defendants having known of, and having consciously disregarded, the substantial risk that their conduct would significantly injure children, and others, including Plaintiff.

373. Defendants pursued a course of conduct that they knew created a substantial certainty of significant harm to children on their platforms and others, including Plaintiff.

374. Defendants constantly risked the health of children who accessed their platforms, when Defendants knew the hazards lurking on their platforms yet Defendants did nothing to protect those children from those hazards.

375. Defendants chose not to redesign their platforms or warn or inform the unsuspecting children accessing their platforms, including Plaintiff's students or their parents.

376. Defendants have also wrongfully concealed information and have made false and/or misleading statements concerning the safety of Defendants' platforms with resulting harm to children, including Plaintiff's students.

377. Defendants' negligence was a proximate cause of, and a substantial factor contributing to causing, the injuries to Plaintiff's students and the consequent harms to Plaintiff as alleged.



378. Each Defendant, as described above, intentionally, recklessly, or with gross negligence designed their platforms, as alleged, with conscious indifference to the consequences of its conduct, including damage to the health, safety and welfare of children that accessed the platforms; this warrants exemplary punitive damages in an amount sufficient to punish, without bankrupting, each Defendant and to deter others from like conduct.

#### **COUNT FIVE: INTENTIONAL AND RECKLESS CONDUCT**

379. Plaintiff incorporates paragraphs 1 – 313 and 371 – 376 as though fully set out here.

380. Although Defendants knew, and continue to know, of the high risk of harm posed by children's presence on their platforms, Defendants' provided them access onto the Defendants' platforms with the goal of maximizing how often children visit there and maximizing the amount of time children spend there, and with the further goal of addicting them to visiting and staying on the social media platforms day-in and day-out for weeks, months and years and being exposed to the dangers lurking there.

381. Defendants had the duty to eliminate, guard against, warn against, and otherwise protect children from the high risk posed by lurking harms that Defendants knew would beset children on their platforms, but Defendants, to achieve their profit-making goals, intentionally and recklessly did none of that and shirked their duties to the children on their platforms, thereby exposing them to the dangers alleged herein.

382. Defendants' conduct was intended to, and did, serve Defendants' own interests despite Defendants' knowledge of, and reckless disregard of, the high risk of harm the children's presence on their platforms posed to those children and to Plaintiff which was and is obligated to, did, and does provide care and services to those children in need of services.

383. Defendants continually risked the health of children to whom they provided access to their platforms with knowledge of, and reckless disregard of, the dangers to the children present and spending excessive time on their platforms and Defendants intentionally and recklessly

disregarded those dangers in deciding not to change their platforms to eliminate, guard against, warn against, or otherwise protect children against the dangers there, and failed to warn or inform children and their parents about those dangers.

384. Defendants' intentional and reckless misconduct caused, or was a substantial contributing cause of, harm to children, including Plaintiff's students, and, consequently, to Plaintiff as alleged herein.

385. Defendants have intentionally and recklessly attracted and tempted children, including students in Plaintiff's schools, to access their platforms and provided access to the platforms knowing that they posed a high risk of serious harm to those children. Those were dangers that the children, by reason of their age and stage of development, could not, and could not be expected to, comprehend and avoid, and dangers that Defendants knew children would be exposed to yet went to lengths to tempt children to be exposed to, and those were dangers the Defendants had the duty to eliminate, guard the children against, and warn the children and their parents against, and otherwise protect them against but Defendants, for profit, chose to do none of that, and so, violated their duties under law, and, as a proximate result, children, including Plaintiff's students, have been injured and Plaintiff has been forced to divert resources and money to address those harms for children in need of those services as alleged.

386. Defendants' intentional and reckless disregard of the dangers posed to children on their platforms demonstrates an outrageous indifference to the high risk of harm to the health, safety, and welfare of children on their platforms and those, such as Plaintiff, obligated to provide care and services to children in need of such services, and warrants the assessment of exemplary punitive damages.

## **VI. PRAYER FOR RELIEF**

WHEREFORE, Plaintiff prays for judgment as follows:

- A. Entering an Order that the conduct of each Defendant has created a public nuisance, that Defendants platforms are defective products under Florida law and that each Defendant has acted intentionally and recklessly and, at least, negligently;
- B. Entering an Order that Defendants are jointly and severally liable;
- C. Entering an Order requiring Defendants to abate the harms and public nuisance described herein and to deter and/or prevent the resumption of such harms and nuisance;
- D. Permanently enjoining Defendants and anyone acting in concert or participation with them from engaging in the methods, acts, or practices causing or contributing to the harms as described herein;
- E. Awarding equitable relief to fund treatment for excessive and problematic use of social media and prevention education;
- F. Awarding compensatory and punitive damages;
- G. Awarding reasonable attorneys' fees and costs of suit;
- H. Awarding prejudgment and post-judgment interest; and
- I. Any other relief that the Court deems just and proper under the circumstances.

## **VII. JURY TRIAL DEMAND**

Plaintiff demands a trial by jury on all issues and claims triable to a jury.

Date: April 15, 2024.

Respectfully submitted,

/s/ Alan M. Pickert  
One of Plaintiff's Attorneys

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